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(54) Process of forming binding albums

(57) At least one side of the backs and sheets (1) that make up the album or other type of file for any purpose is provided, in a preferably centred position, with at least one opening or slit (2) having a "C" profile with the concavity facing outwards and such that at its ends the side of the sheet and/or back is equipped with aligned and opposed appendages (3, 103). By exploiting the flexibility of the material making up the sheets and/or backs, the said end appendages (3, 103) of the said side opening (2) of the sheets can be conveniently anchored to the ends of a hollow body (4), which is preferably tubular and which acts as a binding means, as a body of a hinge, and which by means of its shape and colour contributes to enhancing the aesthetic value and originality of the file.

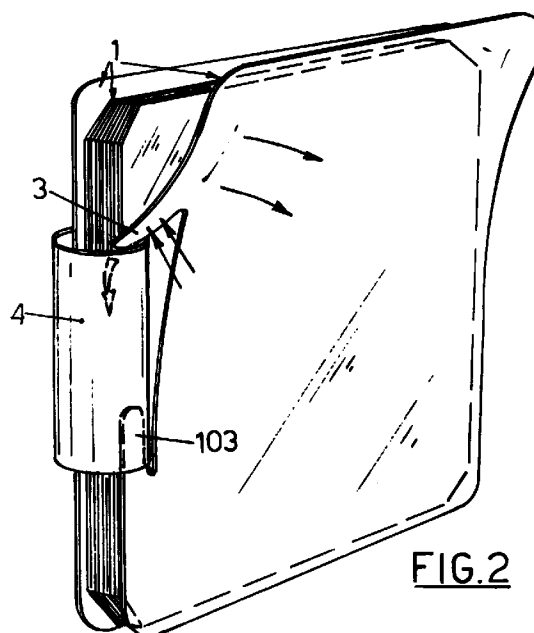


FIG.2

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Description

The present invention relates to a process of forming binding albums, exercise books, folders or other files made up of sheets and possible backs for the purpose of simplifying the binding process, in order to enable piling of sheets in variable quantities according to the needs and to form albums or other files having original features. According to the invention, at least one side of the backs and of the sheets that make up the album, exercise book or other type of file is provided, in a preferably centred position, with at least one slit or opening having a "C" profile at the ends of which the side of the sheet or back is equipped with aligned and opposed appendages. By exploiting the flexibility of the material making up the sheets and/or backs, the said opposed appendages of the ends of the said side opening of the sheets can be conveniently anchored to the ends of a hollow body, which is preferably tubular and which acts as a binding means, as well as a hinge, and which by means of its shape and colour contributes to enhancing the originality of the file

Further characteristics of the invention and the advantages deriving therefrom will appear more evident from the following description, made with reference to the figures of the attached drawings, in which:

- Figure 1 is a top plan view of a sheet pre-arranged for articulation to the hollow binding body which is shown in longitudinal section;
- Figure 2 is a perspective view of an album or file that is about to be completed with the fastening of one of the backs of the same album or file to the hollow binding body;
- Figures 3, 4 and 5 are respectively three other embodiments of the binding tube and of the album or file, sectioned along the plane indicated by the line III-III of Figure 1.
- Figures 6, 7 and 8 are perspective views of three embodiments of files, albums or folders bound according to the invention.

The technique described herein finds a valid industrial application in the production of photograph albums, with backs and sheets made of plastic material, but it is also suitable for the production of any file made up of backs and sheets of any sufficiently flexible material to be bound in variable quantities. In the following description, for reasons of simplicity, only the term "file" will be used to mean any set of sheets and possible backs that may be used as albums, folders, exercise-books, or for any other purpose.

With reference to Figure 1 it may be noted that at least one of the sides of the sheet or back 1 of the file is provided, in a preferably intermediate and centred position, with at least one slit or opening 2 having a "C" shape, with the concavity facing outwards and such as to form, on the side of the sheet and/or back on which it

opens, aligned and opposed appendages 3, 103 of equal or different length and of equal width A. To bind the sheets and backs 1 as explained above, a body 4 is used which is hollow at least at the ends, preferably a portion of tube, preferably of round section (see later), of a length suitably shorter than the internal one of said opening 2, with an internal diameter B of a width preferably equal to, or slightly larger than twice the width A of the said appendages 3, 103 and in which the thickness C of its wall is preferably equal to, or suitably smaller than, the width D of the said opening 2. Good results have been achieved using a tube 4 made of aluminium, which is well-known as a very light material, anodized with a colour that matches the colour of the back and/or of the sheets 1 of the file, for example a contrasting colour. The combination of a dull silver tube 4 with a back or sheets 1 that are black or metallized black has proved particularly pleasant. It remains, however, understood that the tube 4 may be of any colour and that the tube itself can possibly be painted and/or decorated, also with engravings made, for example, with so-called diamond-point engravers, which make specular decorative engravings. The tube 4 may be made of any material, including non-metal ones; e.g., plastic material, including transparent plastic. The edges of the ends of the tube 4 are appropriately bevelled. The sheets 1 can be anchored to the tube 4 rapidly and simply, as illustrated in Figure 2. One of the appendages, for example appendage 103, is inserted in one end of the tube 4 and then, by exploiting the flexibility of the sheet 1, the latter is bent away from the said tube, and the other appendage 3 is bent so that it can be inserted in the opposite end of the same tube.

From Figure 3 it is evident that the appendages 3, 103 of the backs and sheets 1 have ample freedom to turn inside the tube 4, without in the least interfering with one another, so that the file may be easily opened, the pages turned over, and the file closed again.

It remains understood that the section of the tube 4 may be of any other shape that tends towards a round shape, for example of a polygonal type as indicated by 4' in Figure 4, or else partly round and partly flat, as indicated by 4" in Figure 5, with the flat part 104 that preferably faces downwards.

It remains understood that, if the sheet and/or back 1 are of considerable size, they can be bound with more than one opening 2 and more than one tube 4, which are set symmetrically on the side of the parts to be bound.

Instead of the tube, it is possible to use any body of a tubular shape, for example a spring or spiral having the shape of a cylindrical helix. Since the appendages 3 and 103 engage only in corresponding end portions of the tube 4, the said tube could be narrowed in the intermediate part, so as to assume a profile that recalls that of an hourglass. Once more, the tube 4 could be replaced by two rings engaged partly on the ends of an intermediate body made of light material different from

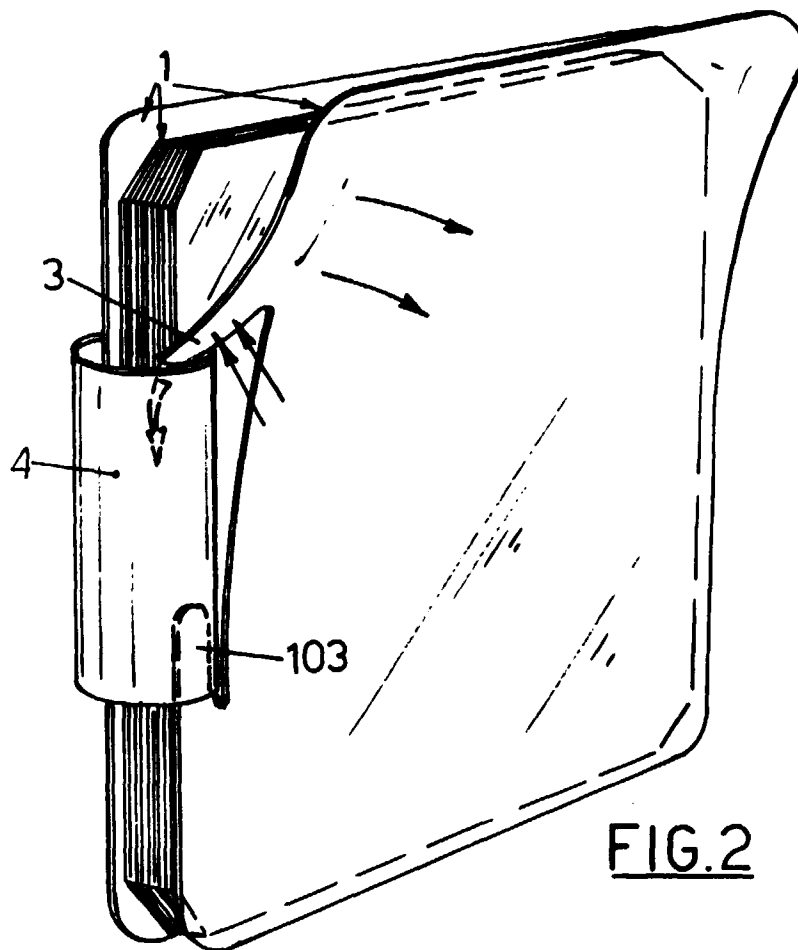
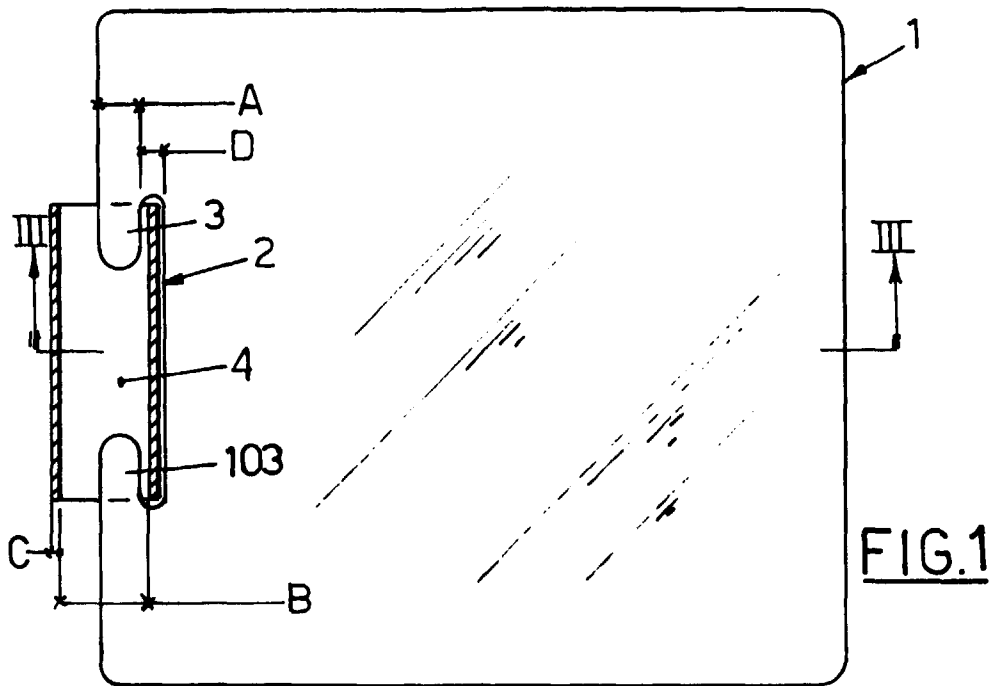
the one of which the rings are made and having a hollow, or even full, section. The combination of an intermediate body made of wood or imitation wood with metal end rings could be particularly attractive.

The C-shaped opening 2, instead of being made directly on the sheets and on the backs 1, could be made on attachments connected to the aforesaid parts 1 in any appropriate manner.

Figures 6 and 7 show possible files 1 according to the invention, the backs of which are provided with flaps for closing 101, so that the file itself can be picked up and carried by gripping the binding tube 4, which, since it has a diameter larger than the thickness of the file, is highly suitable for being used as a handle. Figure 8 illustrates another file according to the invention, equipped with a slit or opening 2 wider than the one provided in the files previously considered, so that one part of this opening remains free at the binding tube 4 to enable insertion of the user's hand in this slit when he uses the tube 4 itself as a handle for carrying the file or folder in question.

Claims

1. Album, exercise-book, folder or other file made up of sheets and possible backs of any suitable and sufficiently flexible material, to be piled in variable quantities and to be bound so as they are free to turn with respect to one another, characterised in that each back or sheet (1) is provided, on the side to be bound, in an intermediate or symmetrical position, with at least one slit or opening (2) having a "C" shape, with the concavity facing outwards, so that at the ends of said opening the said side (1) may present aligned and opposed appendages (3, 103), which, by exploiting the flexibility of the said sheets and/or backs, may be easily inserted into the ends of at least one hollow body (4), of any suitable material, colour and shape, and of length equal or slightly smaller than that of the said opening, the wall of which has a thickness slightly smaller than the width of the said opening, and the internal width of which is equal to or larger than twice the width of the said appendages, so that the sheets and/or backs are free to turn around the said hollow binding body, without their appendages interfering with one another.
2. Album or file according to Claim 1, in which the hollow binding body (4) consists of a tube.
3. Album or file according to claims 1 and 2, in which the binding tube (4) is made of anodised aluminium of any suitable colour.
4. Album or file according to Claim 2, in which the binding tube (4) is made of any suitable plastic material, and may be of any colour or transparent.
5. Album or file according to Claim 2, in which the binding tube (4) has a round section.
6. Album or file according to Claim 2, in which the binding tube (4) has a polygonal section.
7. Album or file according to Claim 2, in which the binding tube (4) has a section consisting of one round part, having a sector shape, and one straight part (104), set as a chord between the ends of the said sector, the said flat part preferably facing downwards during use of the album.
8. Album or file according to the previous claims, characterised in that it is provided with at least one flap for closing (101), so that the file itself can be picked up and carried, in a closed and compact position, by gripping the binding tube (4), which, since it has a diameter larger than the thickness of the file, is highly suitable for being used as a handle.
9. Album or file according to Claim 8, characterised in that it is equipped with a relatively wide slit or opening (2), which is only in part occupied by the binding tube (4), so that the user's hand may be inserted in the free part of the said opening when he uses the binding tube itself as a handle for carrying the file or folder in question.



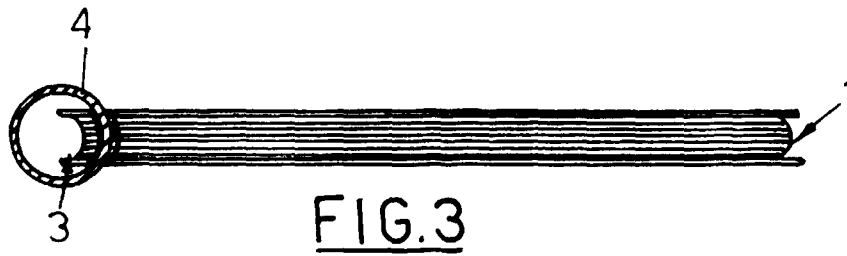


FIG. 3



FIG. 4

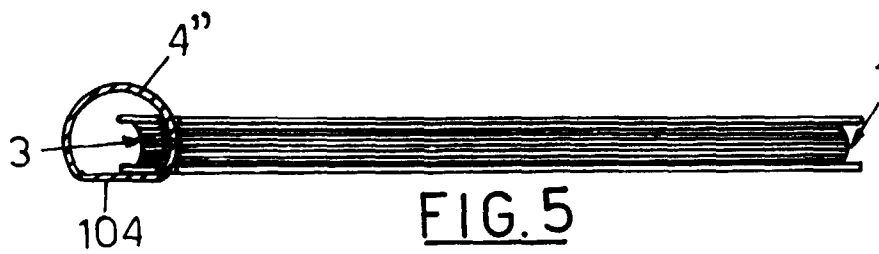


FIG. 5

