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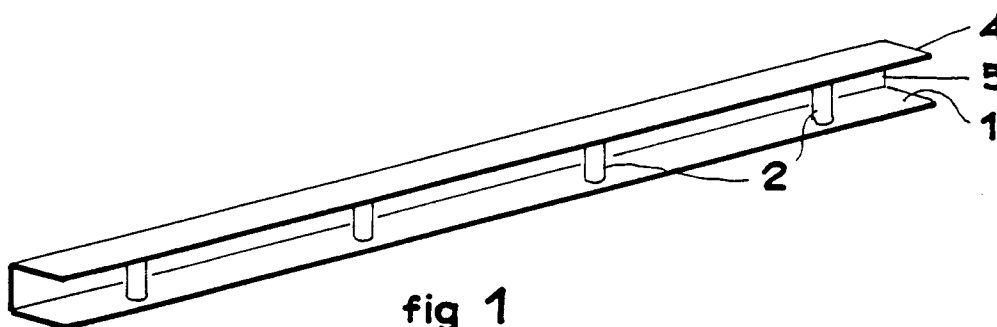
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I-20122 Milano (IT)(54) **Filing appliance.**

(57) A back for binding a file is described, formed by a C shaped body comprising a central zone (5) and two lateral zones (or wings) (1,4): one of the wings (1), both of which are movable with respect to the central zone, has first connecting means (2), which are protruding and can be inserted in corresponding holes in the documents constituting the file before being reversibly locked by second connecting

means (3), of a complementary shape, in the other wing (4).

Preferably, the back binding has also a pair of suspending arms (pivotably mounted on said connection means) protruding from the extremities of the C shaped body, to be hooked to the sides of a file cabinet structure, consenting to file the file without needing suspended folders or the like .

**fig 1****EP 0 644 066 A1**

Field of the invention

The invention consists in a back for binding a file, formed by a C shaped body whose lateral sides (hereinafter: wings), both movable with respect to a central zone, have connecting means which can be inserted in holes in the documents constituting the file, and thereafter locked to one another; the back binding has also a pair of suspending arms which, when protruding from the extremities of the C shaped body, can be hooked to the sides of the file cabinet structure, consenting to file the file without needing suspended folders or the like.

State of the art

Sorting and preserving (hereinafter: binding) paper documents constituting a single file and filing the bound files, represented and still represent an important economic and organizational problem for any institution, even if small.

With the exception of microfilm systems and the filing methods using fileholders, envelopes and the like in which the documents are inserted without being in some way bound, the presently known and used filing methods are:

- binding the documents usually bearing two holes in folders, provided with a foldable blade (usually metallic and preferably plastified), in which the same documents are held by means of said holes: the file can be easily updated, but its inspection is not always easy and in the long term there is the risk to tear the documents at the holes;
- binding the documents bearing two or more holes in binders, having opening metal rings, to which the documents are bound by means of said holes: the file can be easily updated and generally easily inspected, but in the long term there is the risk to tear the documents at the holes;
- binding the documents, holed in a plurality of points by suitable devices, using a metallic spiral (preferably plastified) or a plastic back which binds the documents by inserting itself in said holes: the file can be updated and filed with great difficulty;
- binding the documents by back glueing by means of specific binding machines: the file cannot be updated.

One of the most used methods for filing a file requires inserting each file in a suspended folder (or equivalent means), hanging on supports placed under the shelves of racks and/or cabinets or on the edges of a drawer: such filing method consents to easily find a file, but it is costly, in that it requires to frequently buy new suspended folders

to receive new documents and/or to replace the folders torn or anyway damaged by consulting the files.

The back according to present invention refers to a simple and economic way to obviate inconveniences and limits of known binding and filing methods, allowing to realize strong and easily updatable files, which have overall dimensions barely higher than the unbound documents and which can be filed without requiring suspended folders or the like.

Summary of the invention

The present invention refers to a back for binding a file, formed by a plastic material body comprising a central zone and two lateral zones (or wings), foldable with respect to the central zone, to form a C shaped body: one of the wings bears first connecting means which can be inserted in holes punched in the documents forming the file and to be coupled to corresponding second connecting means born by the other wing.

Preferably, a back according to the invention also comprises a pair of suspending arms (pivotably mounted to the connecting means placed at the extremities of the C shaped body and usually folded within the same body) which, when opened, protrude from the extremities of the C shaped body permitting to file the file by directly hooking the relevant back to supports for filing the files.

List of the Figures

The invention will be hereinafter more precisely described with reference to an esemplificatory non-limiting embodiment shown in the enclosed drawings, in which:

- Figure 1 shows a back according to the invention;
- Figure 2 shows the back of Fig. 1, fully opened;
- Figure 3 shows a suspending arm;
- Figure 4 shows a back according to the invention comprising a pair of suspending arms folded within the back;
- Figure 5 shows the back of Fig. 4, in which the suspending arms are spread out.

Detailed description

Figure 1 shows a back binding, according the invention, formed by a plastic material body comprising a central zone 5 and two lateral zones (or wings) 1, 4 having a length not lesser than the one of the pages of the file to be bound, folded with respect to the central zone 5 to form a C shaped body; one of the two wings 1 has first connecting

means (shown in the Figures as cylindrical bodies 2) which are inserted in holes punched in the documents (not shown in the Figures to simplify the graphic representation) and coupled to second connecting means (shown in Figure 2 as stakes 3) born by the other wing 4; the width of the central zone 5 (pratically equal to the lenght of the cylindrical bodies 2) determines the maximum thickness of the file bindable with said back.

The use of a plastic material permits to considerably reduce the manufacturing costs of a back binding according to present invention, which can also be made in different colors, thus permitting each customer to have, if desired, its own "colour code" for a first, rough classification of the files.

The "male-female" coupling between each stake 3 and a hole 6 (Fig. 2) realized into the free end of corresponding cylindrical body 2, is, in a preferred way, of a reversible kind, to permit an easy updating and/or modification of the file bound through a back according to the invention by adding, substituting and/or eliminating at any moment one or more pages; still remaining under the scope of present invention, it is however possible to obtain an irreversible coupling (by heat-welding, glueing, and so on).

Figure 2 shows, opened, the plastic material body forming the back of Figure 1; it is possible to see the two wings 1, 4, the central zone 5, the folding lines 7 of wings 1, 4 with respect to the central zone 5 to obtain a C shaped body, the cylindrical elements 2 (each having a hole 6) and the stakes 3 each of which can be inserted in the hole 6 of corresponding cylindrical element 2.

To permit an easier use of the invention, on the inner face of at least one of the wings (in Figure 2, on the inner face of wing 4, bearing the stakes 3) there are engraved reference marks 8 to permit the correct punching of the documents, even using a puncher equipped with fewer punches than cylindrical element 2; a further reference mark 9 points where the C shaped body must be cut if the documents to be bound have a lesser format than expected, or if the side to be bound is the lesser one; to this purpose, it is reminded that the length of the lesser side of an A4 standard page corresponds to the length of the longer side of an A5 standard page.

Figure 3 shows one of the suspending arms 10 to be connected to the C shaped body, for filing the relevant file without using suspended folders or the like. In the Figure are shown the hole 11 in which the cylindrical element 2 placed at one extremity of the C shaped body must be inserted, the groove 12 bound to lay on the supports of filing means and a further groove 13, permitting an easy rotation, around the cylindrical element 2, of the arm 10 letting it to protrude out from the back.

Figures 4 and 5 show a back according to the invention comprising a pair of suspending arms 10.

In the Figure 4 the suspending arms 10, at rest position, are folded within the C shaped body, from which partially protrude at the extremity bearing the hole 11; grooves 13 permit to the user an easy bringing of arms 10 to their working position by rotation around corresponding cylindrical elements 2.

In Figure 5 the suspending arms, at working position, protrude from the sides of the C shaped body, permitting to suspend the back (and the file bound by it) directly to the supports provided to this end in the filing structures, without requiring suspended folders or the like.

Still remaining under the scope of present invention, it is possible to replace the above described moveable arms with a pair of fixed arms, integral with the back; it is further possible to modify and improve the back for binding a file according to the present description, as suggested by current experience and by the natural evolution of the technique.

Claims

1. Back to bind a file, characterized by the fact of being formed by a body in plastic material comprising a central zone (5) and two lateral zones (or wings) (1, 4) foldable with respect to said central zone (5) to obtain a C shaped body, one of said wings (1) bearing first connecting means (2) which can be inserted in holes punched in the documents forming said file, and to be coupled to a corresponding second connecting means (3) born by the other of said wings (4).
2. Back for binding according to claim 1, characterized in that it further comprises a pair of suspending arms (10), protruding from the sides of said C shaped body, to suspend said back to means for filing said file.
3. Back according to claim 2, characterized in that said suspending arms (10) rotate around said connecting means (2, 3) placed at the extremities of said C shaped body, said connecting means (2, 3) being inserted in a hole (11) punched at one of the extremities of said suspending arms (10), in that when at working position said arms (10) protrude from the sides of said C shaped body while, when at rest position, the same are folded within said C shaped body, from which only partially protrude at the extremity bearing said hole (11), and in that said extremity of said suspending arms (10), protruding from said C shaped

body, has a groove (13) allowing an easy rotation of said suspending arms (10) from said rest position to said working position.

4. Back according to claims 1 or 2, characterized in that said first and second connection means (2, 3) are reversibly coupled to one another. 5
5. Back according to claims 1 or 2, characterized in that on the internal surface of at least one of said wings (1, 4) reference marks (8) are engraved to permit the use of punchers having fewer punches than said connecting means (2, 3). 10
6. Back according to claims 1 or 2, for binding, at choice, documents having two different normalized formats, characterized in that on the internal surface of at least one of said wings (1, 4) there is at least one further reference mark (9) defining the portion of said back to be detached to bind said documents presenting said lesser format. 15 20

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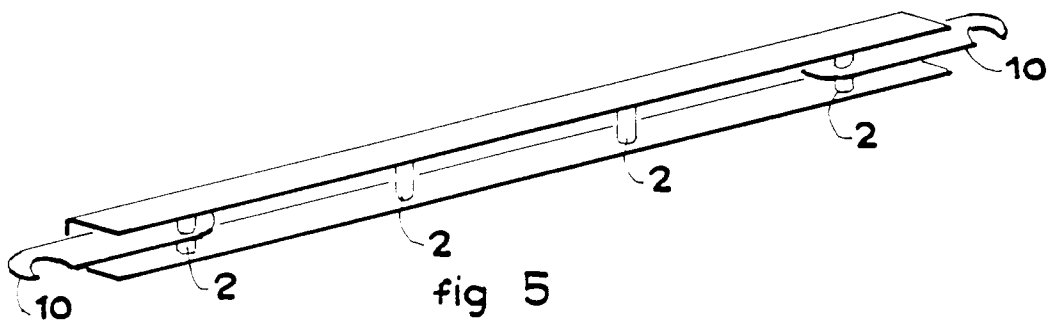
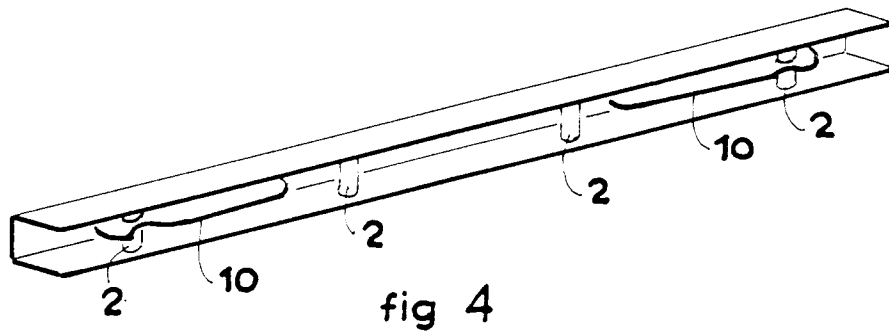
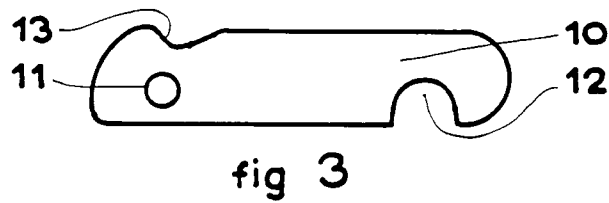
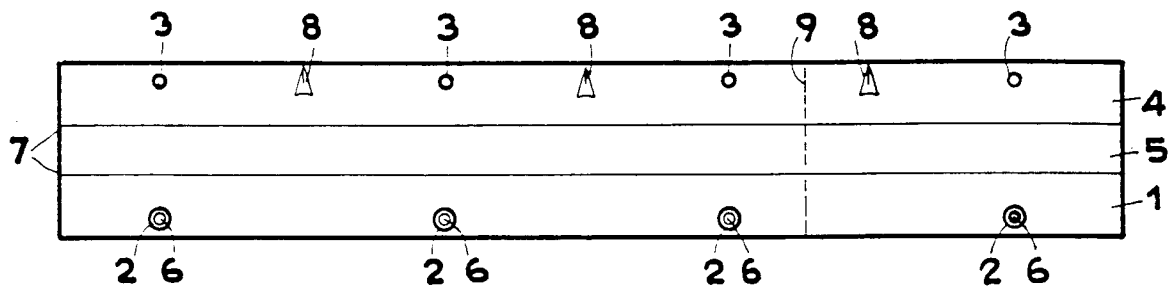
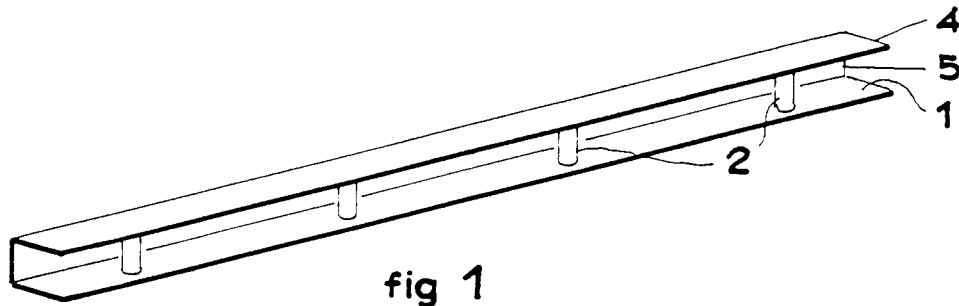
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EUROPEAN SEARCH REPORT

Application Number
EP 94 11 4529

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.6)
X	GB-A-2 192 588 (MAHONEY)	1	B42F13/34
Y	* the whole document * ---	2,3	B42F15/00
X	GB-A-1 424 667 (ALPA STEEL & PLASTICS)	1	
	* the whole document * ---		
Y	US-A-4 979 626 (PITTS)	2,3	
	* the whole document * -----		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B42F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22 December 1994	Examiner Evans, A
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	