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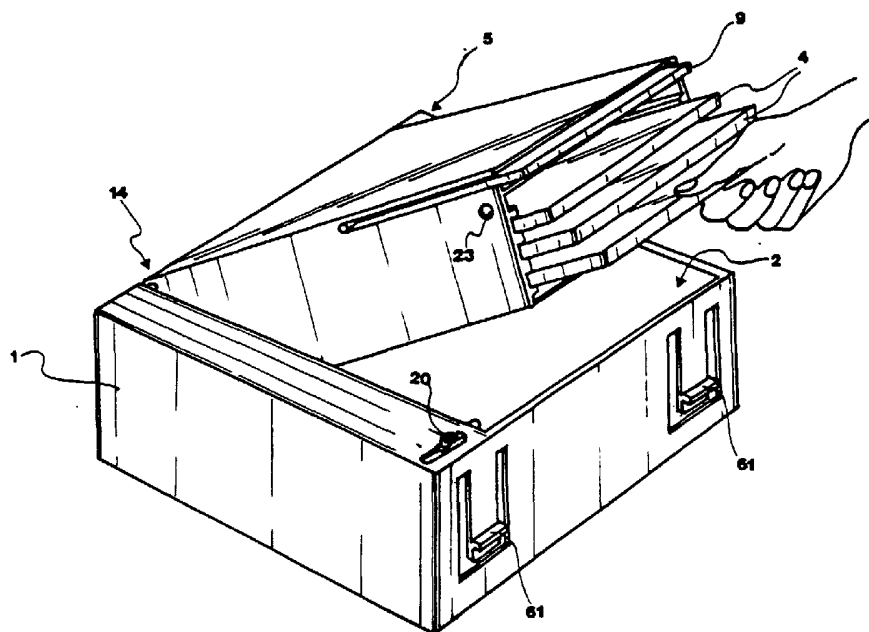
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(54) Title: KEEPING AND FILING DEVICE FOR DATA STORAGE SUPPORTS



(57) Abstract: A keeping and filing device for data storage supports (4) comprises a main body (1) having a first hollow region (2) apt to house a container (3) for said supports, said container (3) having a front opening (7) apt to the insertion and to the extraction of said supports (4), wherein said container (3) is hinged to said main body (1) so as to be capable of assuming a first closed position in which it is entirely contained in said main body (1), and a second opened position in which said front opening (7) is accessible to a user.



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KEEPING AND FILING DEVICE FOR DATA STORAGE SUPPORTS

DESCRIPTION

The present invention refers to a keeping and filing device for data storage supports, in particular optical-type supports (CD, DVD and the like), and magnetic-type supports (tapes, cassettes, videocassette, floppy disks and the like).

For simplicity's sake, hereinafter reference will still be made to the CD (compact disks) as typology of support to be kept. Of course, it is understood that the use of the device according to the present invention can be extended to any other type of support having assimilable features.

Filing devices for suchlike supports, in particular for optical-reading disks (CD) are widespread.

Most of these devices are made so as to stack disks the one on the other, providing for each disk a single housing vane having the dimensions of the casing thereof. However, this arrangement causes a less-than-optimal space exploitation. In fact, evidently plural disk stacks cannot be placed the one in front of the other without losing sight of the one located at the rear. E.g., on a shelf merely a fraction of the shelves depth, rather than the full depth is exploitable.

A viable alternative to obviate this drawback is that of keeping the disks in a drawer, placing them in parallel rows and in a vertical posture (standing). However, this solution is far from ideal, first of all due to the vertical posture of the disks that could cause the straining thereof, and secondly due to the fact that thus the disks are particularly exposed to dust.

Moreover, to date none of the known keeping devices for keeping discs enables to easily, and above all safely, transport disks or selected sets of disks.

Object of the present invention is to solve said problems of the known art, providing a keeping and filing device for data storage supports comprising a main body having a first hollow region apt to house a container for said supports, said container having a front opening apt to the insertion and to the extraction of said supports, said device being characterised in that said container is hinged to said main body so as to be capable of assuming a first closed position in which it is entirely contained in said main body, and a second opened position in which said front opening is accessible to a user.

A first advantage of the device according to the present invention lies in that it is easily insertable inside of drawers and/or other furniture, and it enables the complete exploitation of the available space, both in height and in depth.

A second advantage lies in that the device according to the present invention enables to keep the disks in a horizontal position, the sole one providing a perfect

storing.

A third advantage of the device according to the present invention is that it enables to keep the disks out of light and dust, concomitantly enabling a complete accessibility to all filed disks via easy selecting steps.

5 A further advantage of the device according to the present invention lies in that it can be utilised to easily and safely handle sets of disks selected from the filed ones.

Further advantages, features and operation modes of the present invention will be made apparent in the following detailed description of preferred embodiments thereof, given by way of example and not for limitative purposes, making reference
10 to the figures of the attached drawings, wherein:

figure 1 is a perspective view of the device according to the present invention in a first position;

figure 2 is a partially exploded perspective view of the device according to the present invention in a second position;

15 figure 3 is a perspective view of the device according to the present invention in use;

figure 4 is a sectional view of the device of figure 1 taken along line A-A;

figure 5 is a sectional view of an alternative embodiment of the device of figure 1 taken along line A-A;

20 figure 6 is a sectional view of the device of figure 1 taken along line B-B;

figure 7 is a sectional view of the device of figure 1 taken along line C-C; and

figures 8 and 9 are two perspective views of the device according to the present invention.

First of all, reference will be made to figures 1, 2 and 3.

25 A device according to the present invention comprises a main body 1, having a first hollow region 2 apt to house a container 3 in which the disks 4, each in the respective original casing, are kept.

The container 3 is connected to the main body 1 at a rear edge 5, by a pair of hinges 6. As it will be made apparent hereinafter, advantageously such hinges are of
30 the type comprising a spring to ease the opening of the same device.

Moreover, the container 3 has a front opening 7 through which a user can insert and/or extract the desired disks.

Hence, the container 3, is hinged onto the main body 1, so as to be capable of assuming a first closed position in which it is entirely contained in the hollow region
35 2 of the main body 1, and a second opened position in which the front opening 7 is accessible to a user wishing to extract and/or insert one or more disks from/into the device.

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Moreover, the main body 1 has a second hollow region 8, apt to contain the mechanisms required for the opening and/or the closing of the device. These gears will be detailed hereinafter.

The container 3 further has a door 9 for the closing of the front opening 7.

5 The door 9 is hinged along an edge 10 of the container 3.

According to a preferred embodiment of the invention, the door 9 is of a disappearing opening type. To this end, guides 11, in which a supporting member 12 of the door 9 may slide are provided on the two side walls of the container 3.

10 The door 9, as it will be illustrated with reference to a subsequent figure, is housed in a containment region 16 obtained inside of the container 3, at the top thereof.

An elastic member 13, e.g. a spring, is connected between the bottom wall 14 of the container 3 and the door 9. The returning action of the spring 13 facilitates the opening of the door 9 and enables an easy insertion thereof into the containment
15 region provided therefor.

Preferably, the door 9 will be lined with a soft material, so as to cushion the contact with the contained disks at closed container.

A semicircle-shaped sliding guide member 15 facilitates the opening of the device.

20 The device according to the present invention further comprises locking means 20, 21, 22, 23, apt to maintain the container 3 in the closed position and, when operated by a user, enable the container 3 to automatically assume the opened position.

25 According to the preferred embodiment of the device, the locking means 20, 21, 22, 23, comprises a sliding push button 20, apt to move a locking member 21 engaging in a corresponding recess 23 obtained on a side wall of the same container 3. A spring 22 holds the locking member 21, in the closed position.

Advantageously, the locking member 21 has one flute neck-shaped end to ease the step of closing the container 3.

30 Alternatively, the sliding push button 20 could be replaced by different devices or by a different type of push button, entailing no substantial modifications to the operation principle of the invention. Said alternative devices will not be detailed hereinafter, as well-known to a person skilled in the art.

35 Next, figure 4 is a sectional view of the device according to the present invention, taken along line A-A of figure 1.

The container 3 comprises a plurality of partitioning members 30, internally located along the side walls of the container, apt to define corresponding seats for

each of the disks to be kept.

Such elements perform both functions of support and guide for discs, when these must be inserted and/or be extracted from the container 3.

5 A containment region 16 is further provided, apt to lodge the door the 9 when this comes opened from a user. A spring 13 facilitates the opening of the door and its insertion inside the containment region 16.

A detention member 17, e.g. of the release type, is provided to lock the door when the latter is closed.

10 On the bottom of the container 3, according to this embodiment, an extraction device 31, 32, 33 is moreover provided in order to facilitate the extraction of the discs when container 3 is opened.

Such extraction device is substantially a mobile wall disposed on the bottom of container 3 and hinged on the container in correspondence of an upper edge 32.

15 A spring 33 constantly exercises a force on the wall 31, causing a rotation when the door 9 is open, like indicated from the arrow in the figure.

During the rotation, the mobile wall 31 pushes discs towards the front opening 7, in such a way that the discs come out in increasing measure starting from the top, facilitating the taken one by an user.

20 Next, figures 5 shows an alternatives embodiment of the device that provides a different operation of the extraction device of discs.

In this case, for each disc 4, an extraction device is provided, substantially realized by an elastic element 41, operated by a pressure exerted from the user on the disc itself, like shown in the figure.

25 A release mechanism, of a type known in art, free the disc that can therefore be extracted. In the same way it is possible, exercising one new pressure, to block of new the disc inside the corresponding seat.

Figure 6 is a section view taken along the B-B line of figure 1, than shows a particular of hinges 6.

30 In particular, the hinges 6 are of the type comprising at least one elastic member 51, e.g. a spiral spring wrapped on the pin 52.

Each spring 51 acts at the same time on the main body 1 and the container 3, in order to facilitate the opening thereof, when demanded.

Figures 7 is a section view taken along C-C line of figures 1, showing a detail of the locking means of the container 3.

35 In particular the sliding push button 20 is connected to a locking member 21 that engages in a corresponding recess 23 obtained on a side wall of the same container 3.

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A spring 22 hold the detention element 21, in a closing position.

Advantageously, the detention element 21 has one flute neck-shaped end in order to facilitate the closing of the container 3.

5 With reference now to figures 8 and 9, according to the preferred embodiment the device comprises a supporting member 60 having a shape allowing the housing of the main body 1 of the same device.

To the aim to block the main body 1 inside the supporting member 60, jointing elements 61 realised on the front wall of main body 1 are advantageously provided.

10 Such jointing elements 61 cooperate with correspondents recesses 62 realize on corresponding edge of the supporting member.

The realization of such elements 61, 62 is well known to a person skilled in the art, then it will not be here described in detail.

15 Moreover, the supporting member 60 is apt to be fixed on a plan 70, as an example a plan disposed inside a drawer. For such scope the plan 70 will have opportunely to be pierced and subsequently the supporting element 60 could be fixed for example by screws 63.

Such feature can be particularly useful when is wanted to be transported one or more containers of the type up to now described.

20 In fact, it is possible, for example, to equip a suitcase with a plan on which are fixed supporting members 60, in which to arrange the containers to transport.

The present invention has hereto been described according to a preferred embodiment thereof given by way of a non-limiting example.

25 It is understood that other embodiments of the invention may be provided, all however to be construed as falling within the protective scope thereof, as defined by the appended claims.

CLAIMS

1. A keeping and filing device for data storage supports (4) comprising a main body (1) having a first hollow region (2) apt to house a container (3) for said supports, said container (3) having a front opening (7) apt to the insertion and to the extraction of said supports (4), said device being characterised in that said container (3) is hinged to said main body (1) so as to be capable of assuming a first closed position in which it is entirely contained in said main body (1), and a second opened position in which said front opening (7) is accessible to a user.
2. The device according to claim 1, wherein said container (3) is hinged to the main body (1) and comprises at least one elastic member (51).
3. The device according to claim 1 or 2, further comprising locking means (20, 21, 22, 23), apt to hold said container (3) in said first closed position, said locking means (20, 21, 22, 23) being apt to be operated by an user so as to allow said container (3) to assume said second opened position.
4. The device according to claim 1, wherein said locking means (20, 21, 22, 23) comprises a sliding push button (20) connected to a detention element (21) apt to engage a corresponding recess (23) made in a wall of said container (3).
5. The device according to any one of the preceding claims, wherein such container (3) comprises one or more partitioning members (30), apt to define corresponding housing seats of said supports (4).
6. The device according to any one of the preceding claims, wherein said container (3) comprises a closing door (9) of said front opening (7).
7. The device according to claim 6, wherein said container (3) comprises a containment region (16), apt to house said door (9).
8. The device according to claim 7, wherein said door (9) is apt to assume a position in which it is entirely contained in said containment region (16).
9. The device according to any one of the preceding claims, wherein said container (3) comprises a device (31, 32, 33; 41) per the facilitate extraction of said supports (4).
10. The device according to claim 9, wherein said device for the facilitate extraction of said supports (4) is a wall (31) hinged in correspondence of a bottom wall of said container (3), said wall (31) being apt to be automatically activated when said container (3) assume said second opened position.
11. The device according to claim 9, wherein said device for the facilitate extraction of said supports (4) comprises an elastic element (41) per each of said supports (4), said elastic element (41) being apt to be manually operated by an user.
12. The device according to any one of the preceding claims, further comprising a

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supporting element (60), apt to house said main body (1).

13. The device according to claim 12, wherein said main body comprises one or more fixing jointing elements (61) apt to cooperate with corresponding recesses (62) realised on a corresponding wall of the supporting element (60).

5 14. The device according to claim 12 or 13, wherein said supporting element (60) is apt to be fixed on a pierced plane.

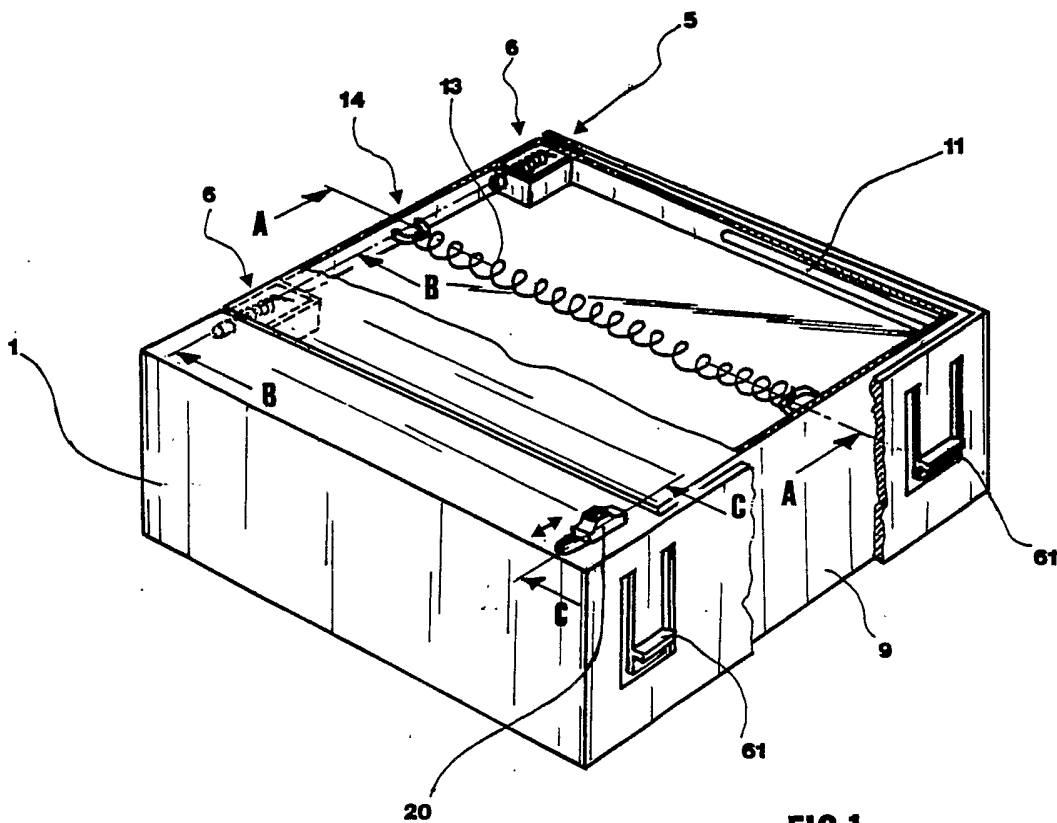


FIG.1

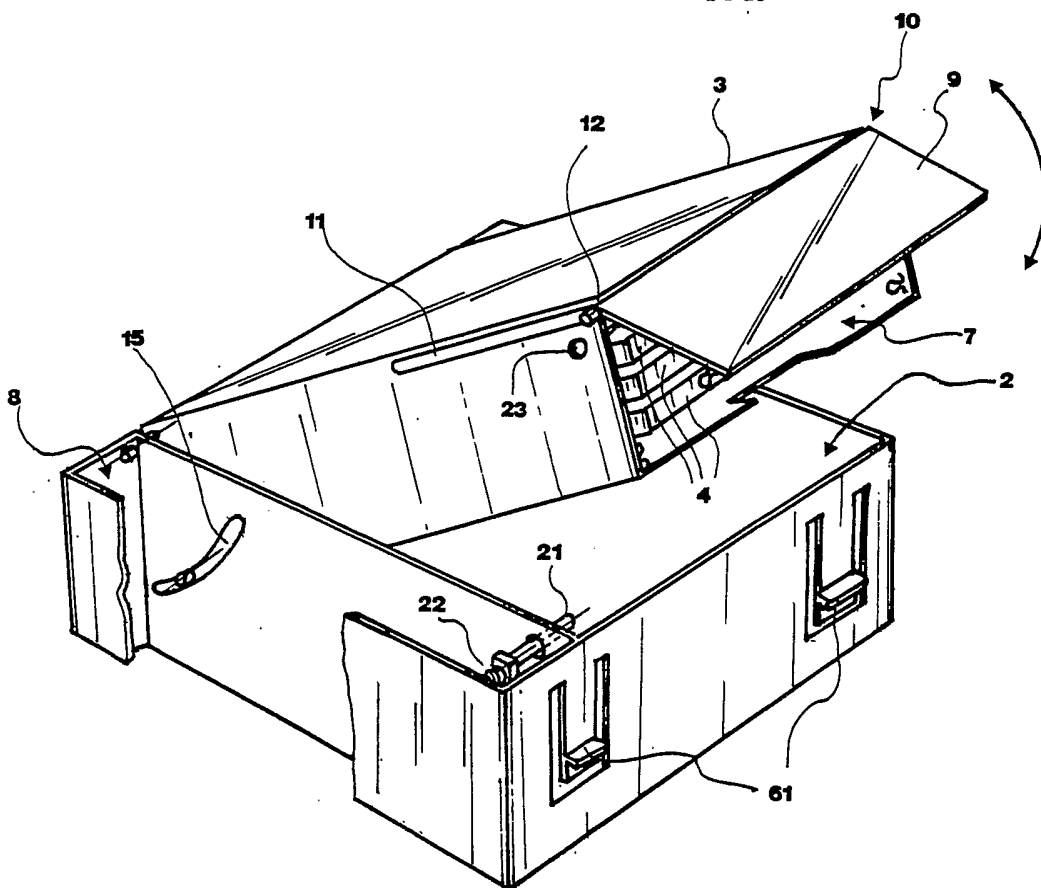


FIG.2

- 2/4 -

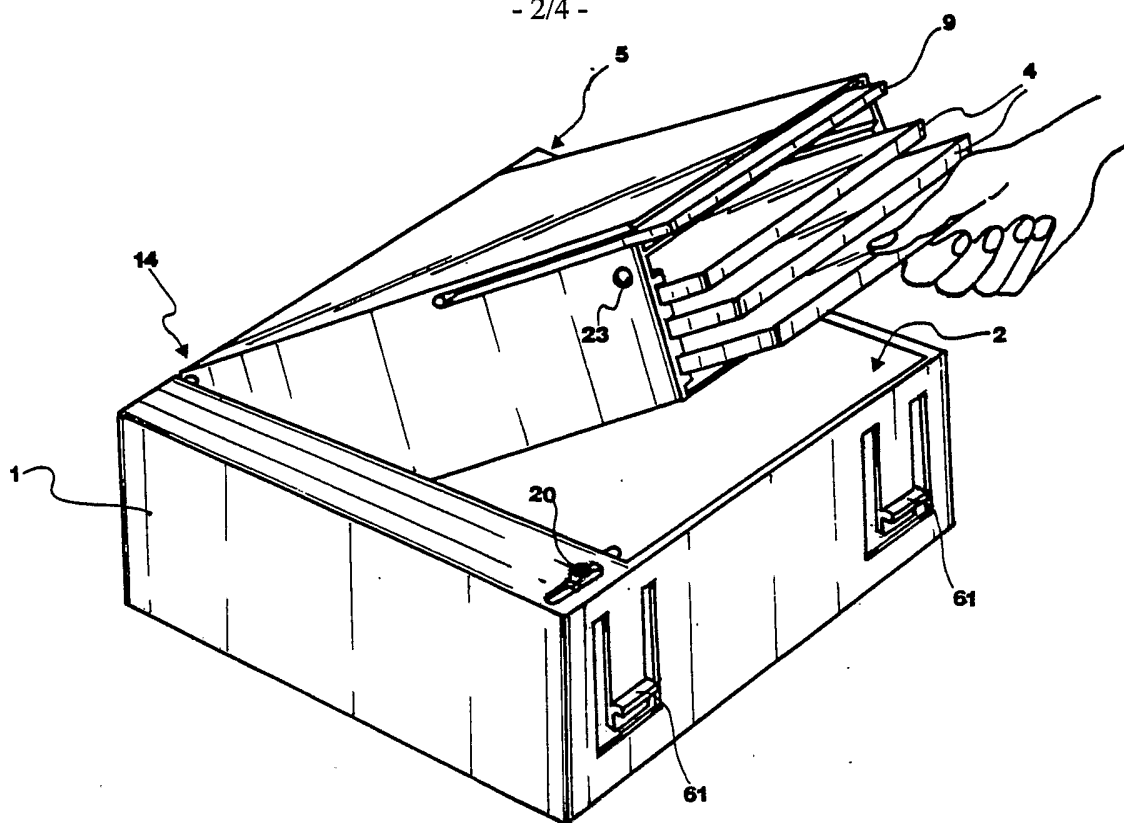


FIG. 3

A - A

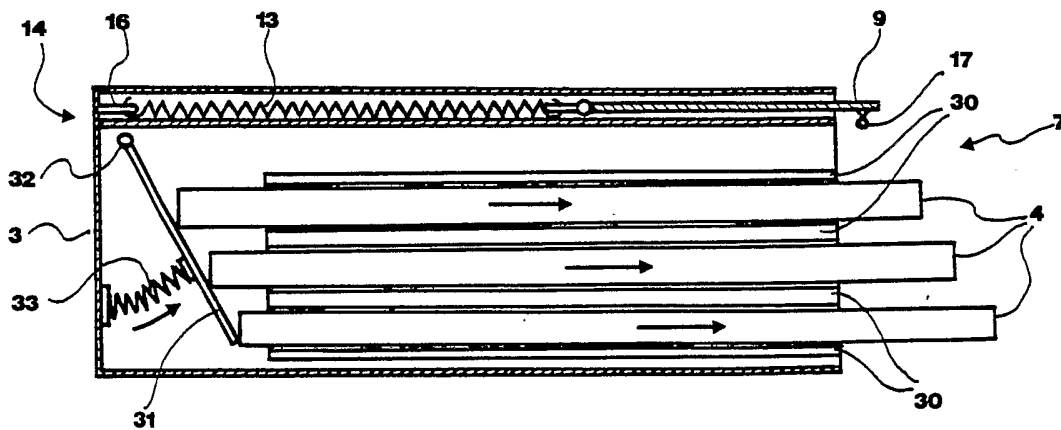


FIG. 4

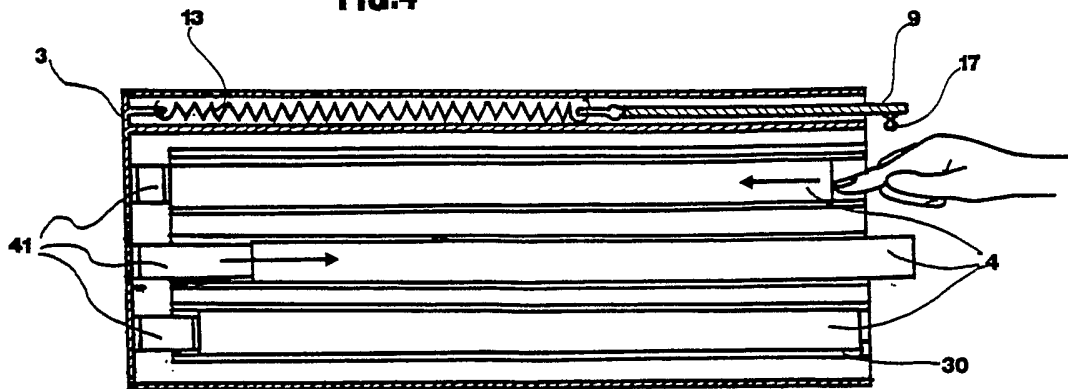


FIG 5

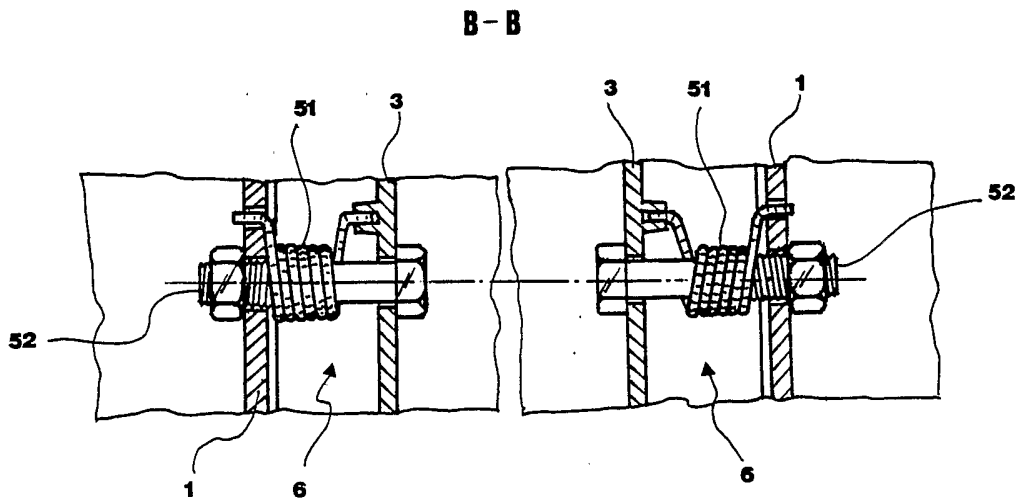


FIG.6

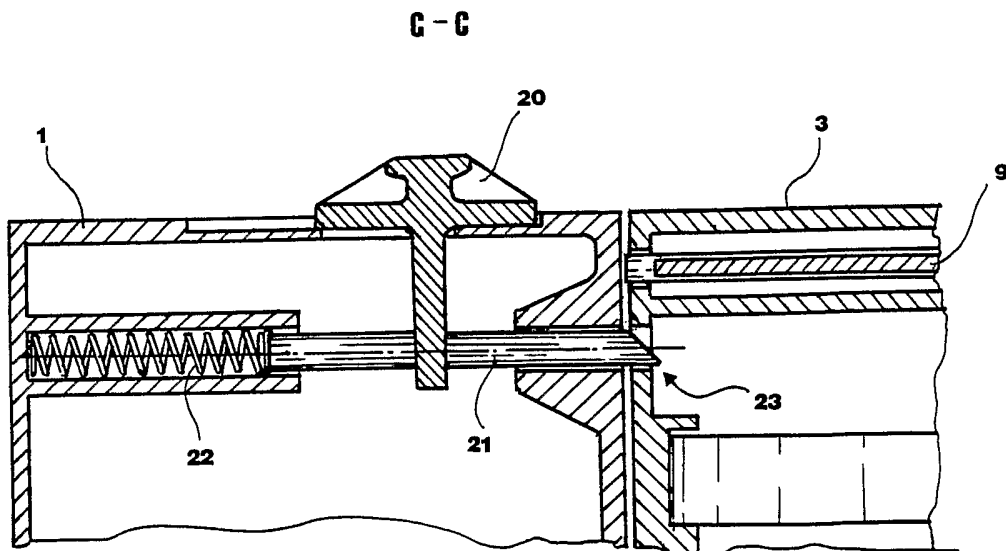


FIG.7

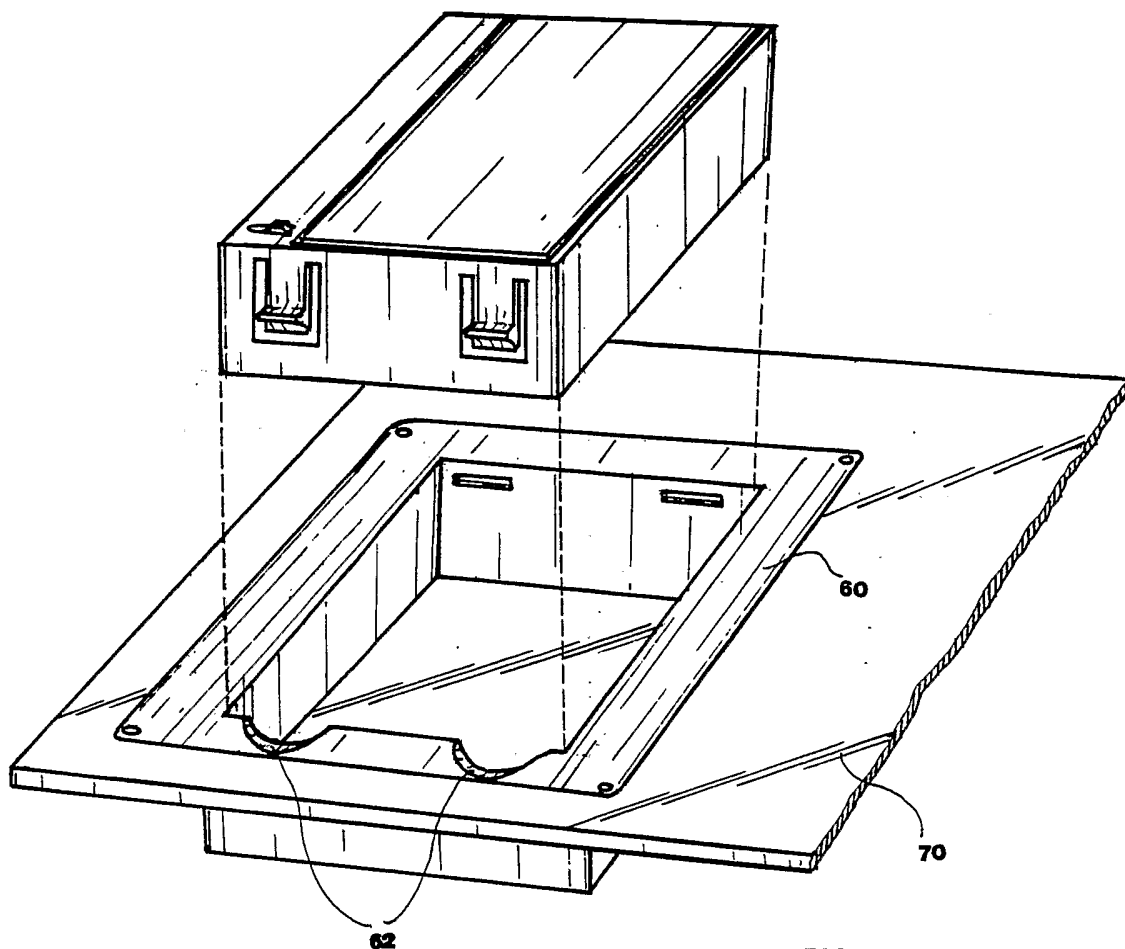


FIG. 8

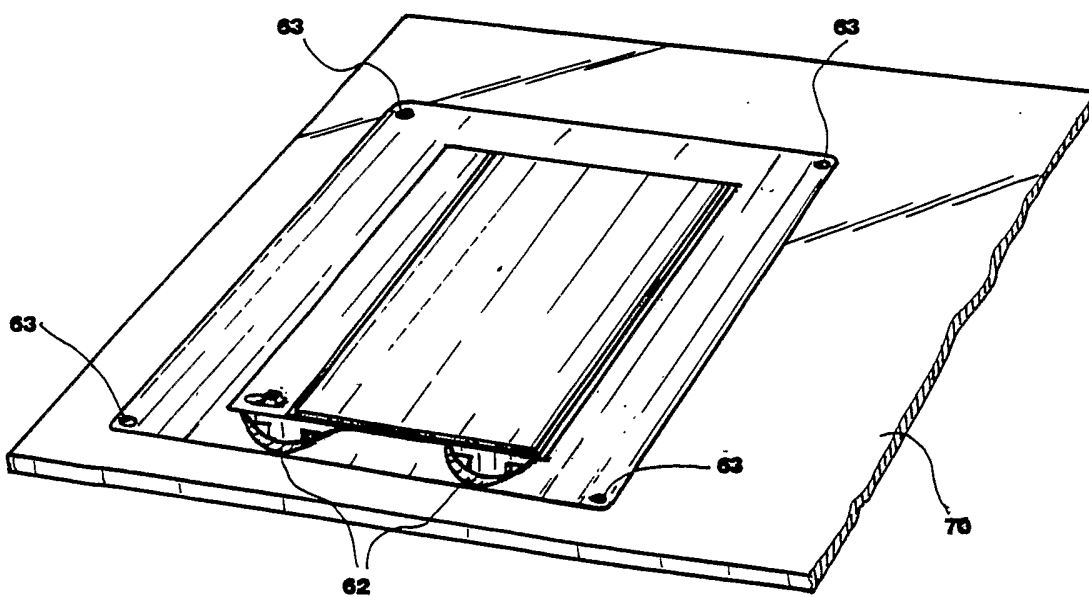


FIG. 9

INTERNATIONAL SEARCH REPORT

 In national Application No
 PCT/IT 02/00406

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G11B33/04 G11B23/023		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 G11B		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 4 423 812 A (SATO MASAOKI) 3 January 1984 (1984-01-03) column 3, line 60 -column 4, line 53 -----	1 2-14
<input type="checkbox"/> Further documents are listed in the continuation of box C.		
<input checked="" type="checkbox"/> Patent family members are listed in annex.		
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Date of the actual completion of the international search 12 December 2002		Date of mailing of the international search report 19/12/2002
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Ressenaaar, J-P

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4423812	A	03-01-1984 JP 57055573 A	02-04-1982