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(54) **ROTARY POSTER DISPLAY**

(57) This display has a casing provided with a transparent window (31) for the viewing of the advertisements (4), an internal receptacle (11) for the positioning of some covers (5) on to which the respective advertisements (4) to be displayed are housed, some means of pulling the successive covers (5) and some means of rear lighting (6) for the advertisement (4) on display. The covers (5) are made up of two transparent sheets (51 and 52) that are joined by one of their ends, and have at the top and bottom ends one each open connecting profiles (53) towards the opposing sides of the cover and orientated towards central area of it.

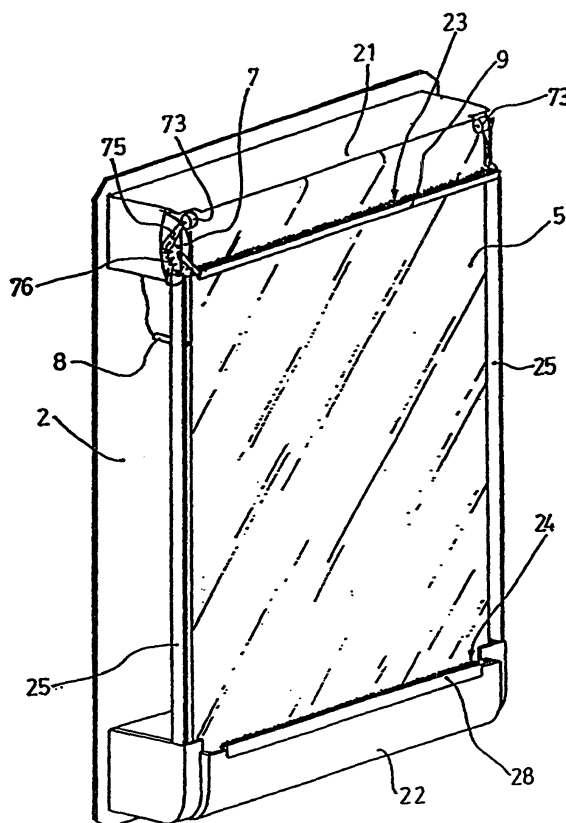


Fig. 2

Description

FIELD OF THE INVENTION

[0001] This invention refers to a rotary display for advertisements, it is the type which includes a casing with a front part provided with a transparent window for the viewing of the advertisements, an internal receptacle for the positioning of some transparent covers on to which the respective advertisements to be displayed are housed, some means of pulling the successive advertisement covers and some means of rear lighting for the advertisement on display at each moment.

PRIOR ART

[0002] As a background to the invention the existence of the European Patent with application number 92918864.7 and publication number ES 2 088 589 must be highlighted, referring to a "device for the fixing of a variable number of rear lit publicity media and made up by a advertisement type section".

[0003] Said piece of equipment is the type which has housed in its interior several publicity media, advertisement type, which are held in a hidden position and can be taken by means of a device of propulsion to a visible position and after returned to the hidden position; said device being made up of, at least, a pair of toothed rollers that drive the endless belt or toothed belt.

[0004] The publicity media, in an open trap fashion by two of the opposing sides has next to one of its ends some toothed hooks which engage on the toothed belt and on the opposing end a structured bar whose ends remain free in order to let it be hooked up by means of the hooks of the immediately preceding sheet.

[0005] This device has certain important problems amongst which the following are highlighted: the high level of wear of the toothed belt, the low effectiveness of the means of hooking up of the following media and the difficulty of carrying out changes or removal of any of the advertisements housed in the publicity media.

DESCRIPTION OF THE INVENTION

[0006] The rotary display for advertisements which is the object of this invention has a casing with a front part provided with a transparent window for the viewing of the advertisements, an internal receptacle for the positioning of some transparent covers on to which the respective advertisements to be displayed are housed, some means of pulling the successive advertisement carrier covers and some means of rear lighting for the advertisement on display at each moment.

[0007] In accordance with the invention the casing is made up of a rear closing plate and a forward plate which defines on its upper and lower edges semi-cylindrical configurations, hollow and horizontal, provided with respective openings for the introduction and extrac-

tion of carrier covers for the advertisements; fixed to said configurations are two vertical guides for the support of the sides of the covers during their movement.

[0008] These covers are made up of two transparent sheets, which are joined by one of their ends, one of them having at the free end a closure overlap for the introduction of the free end of the other sheet. This configuration allows for the cover to be opened completely allowing the positioning of the corresponding advertisement between the two sheets, which make up it.

[0009] In order to achieve the pulling of each one of the covers by the one immediately before, each one has been provided at the opposing ends, upper and lower connecting profiles open towards the opposing sides and orientated towards the central area of same.

[0010] The connecting profile and one of the sheets have less width than that of the remaining sheet, in such a way that this latter defines two lateral bands making up the support mechanism on the vertical guides and on the means of pulling them.

[0011] The covers at the end corresponding to the closure overlap have a flap which ensures the organised positioning of the successive covers, in the interior of a receptacle placed between the forward plate and the rear closing plate of the casing, on being released by its own weight from the cover immediately before.

[0012] For the purpose of ensuring the connecting of the successive sheets, the mouth of the exit of same has a protrusion against which the end section of the first cover to be removed acts, said section adopting a certain inclination towards the back of the display; on the back side of the mouth and faced with said protrusion a brush is provided that exerts pressure on the lower end of the sheet that is in the visible position against the connecting profile of the cover to be extracted, said brush ensuring the connection of the sections corresponding to both covers.

[0013] On the sides of said exit mouth there are two flat springs that apply pressure to the side bands of the covers against the inner surface of the lower semi-cylindrical configuration, which causes the exiting covers make contact with the connecting profile against said protrusion.

[0014] The means of illumination of the advertisements are installed between the two semi-cylindrical configurations of the forward plate of the casing, being placed behind the cover that is in the visible position.

[0015] The means of pulling the covers are made up of two driving wheels that are placed on the inside of the upper semi-cylindrical configuration and that are activated by a motor by means of a common axle. Said wheels are made up from, at least on the surface that makes contact with the cover, a flexible material, carrying out the pulling of the successive covers by friction. In order to ensure sufficient friction of the driving wheels on the covers, this display includes means of applying pressure of the cover onto the driving wheels. Said means of pressure are comprised of some wheels made from

an elastic material installed with the possibility of turning freely on tensioners comprised of an axle supported on a rocking lever receiving the action of a spring.

[0016] The set up of the pressure wheels on the axles of the corresponding tensioners is carried out by means of a self-orientating bearing; this ensures that the rolling bands of the wheels facing each other are kept perfectly facing each other exerting uniform pressure on the side bands of the cover.

[0017] In accordance with the invention, this display has some means of controlling the working of the motor which controls the movement of the advertisement carrier covers, said means being made up of a detector that causes its stopping when one of the covers reaches that position in which the advertisement housed in same is in a visible position and by a time delay which causes a re-starting of the display when said advertisement has been held in the visible position for a specified time; this way ensures that the display time is the same for the different advertisements.

[0018] It has been planned that said detector is of the capacitor type and is fixed on the vertical guides that move the covers, a metal insert will be included in one of these side bands which comes up against said detector when the advertisement included in same reaches the visible position.

[0019] Coming up against the trajectory of the covers there will be a brush at the bottom that will ensure the tension of the visible sheet and an upper brush, which will be connected to earth, in order to discharge the static electricity of the moving covers.

DESCRIPTION OF THE DRAWINGS.

[0020] As a complement to the description that is being made and for the purpose of making the understanding of the characteristics of the invention easier, a set of drawings accompanies this description in which, for illustrative purposes and without limitation, the following is represented:

Figure 1 shows a perspective view of the display that is the object of the invention.

Figure 2 shows a perspective view of the display without the front door, allowing the chassis to be seen.

Figure 3 shows a perspective view of one of the open covers and of the advertisement destined to be positioned between the sheets making up it.

Figure 4 shows a view in profile of one of the covers with the bottom end of the sheet removed from the closure overlap.

Figure 5 shows a frontal elevation of the chassis, where the means of pulling the covers, the vertical

guides and the means of illuminating the display can be seen.

Figure 6 shows a schematic profile of the chassis of the display in which the lay out of the different covers can be seen during the working of the display.

Figure 7 shows a profile view of the lower part of the chassis, showing a vertical plane section, in which the elements set up on the mouth of the exit of the covers can be seen.

Figure 8 shows a detail view in perspective of the upper part of the chassis in which the means of pulling the covers, the brush for the elimination of static electricity and the capacitor detector can be seen.

PREFERRED EMBODIMENT OF THE INVENTION

[0021] As can be seen in the referenced figures, the display which is the object of the invention has a casing made up of a rear closing plate (1) and by a front plate (2), and a front door (3) with a transparent window (31) for the viewing of the advertisements (4) positioned inside of some transparent covers (5) which are moved in the inside of the casing.

[0022] The covers (5) are made up of two transparent sheets (51 and 52), preferably of polycarbonate, joined at one of the ends. The covers (5) have connecting profiles (53) at the ends.

[0023] The sheet (51) has, at its free end, a closure flap (54) for the housing of the free end of the sheet (52), once having positioned the corresponding advertisement (4) between both. This sheet (52) and the sections (53) have a width less than that of the sheet (51), and has two lateral bands (55) defining this with which to support it on the guide and movement means provided in the display.

[0024] On one of the lateral bands (55) there will be a metal insert (56) which will allow it to determine when the advertisement (4) housed in the corresponding cover (5) is visible.

[0025] Between the rear closing plate (1) and the forward plate (2) of the casing a receptacle (11) will be provided into which the covers (5) will be positioned with the corresponding advertisements (4) to be displayed.

[0026] Plate (2) has at the top and bottom ends, respective semi-cylindrically configurations (21 and 22) with facing mouths (23 and 24) for the entry and exit of the covers (5) in the receptacle (11). Two vertical guides (25) are to be found on said configurations for the support of the side bands (55) of the covers (5).

[0027] In order to ensure the connection of the end sections (23) of the successive covers, the exit mouth (24) will have a front protrusion (26) against which the end section (23) will make contact with the following cover (5) to be extracted, there will be a brush (27) facing

said protrusion which will press the cover (5) previously extracted against the section (23) held by the protrusion (26).

[0028] On top of the exit mouth (24) there will be a brush (28) that will apply pressure to the exiting covers (5) towards the rear area ensuring a certain tension against same.

[0029] At the sides of the mouth (24) one each flat springs (29) will be provided that will apply pressure to the side bands (55) of the covers (5) against the internal surface of the lower configuration (22).

[0030] The means of illumination (6) of the display will be by means of some fluorescent lights mounted between the configurations (21 and 22) of the plate (2).

[0031] The means of pulling the covers (5) will be housed inside of the upper configuration (21) and include two driving wheels (7) activated by a motor (71) by means of a common axle (72).

[0032] The successive covers (5) will be held on the driving wheels (7) with the side bands (55), being pressed against these by pressure wheels (73) fixed by means of self-orientating bearing on one each tensioners with an axle (74) supported on a rocking lever (75) receiving the action of the corresponding spring (76).

[0033] The rolling bands of the driving wheels (7) and the pressure wheels (73) are made of an elastic material, for the purpose of ensuring the movement of the covers (5) without damaging them.

[0034] On one of the vertical guides (24) there will be a capacitor detector (8) fixed, which will cause the motor (71) to stop when it comes up against the metal insert (56) in one of the covers (5). This contact is produced when the advertisement (4) housed in the cover (5) is in the visible position, keeping it in said position for a specified time that is controlled by a timer.

[0035] In order to ensure the ordered placing of the covers (5) in the housing (11), so as to free of the cover immediately previous by gravity, the sheet (51) has a flap (57) at the end corresponding to the closure overlap (54).

[0036] On the vertical guides (25), and next to the upper mouth (23) there is a brush (9), which comes into contact with the moving cover; said brush (9) is connected to earth and is to discharge the static electricity from the covers.

[0037] Once having sufficiently described the nature of the invention, likewise an example of the preferred carrying out, it is placed on record for such purposes that the materials, shape, size and layout of the elements described can be modified, provided that it does not suppose a variation in the basic nature of the invention which is claimed below.

Claims

1. A rotary display for advertisements; of the type which includes a casing with a front part (3) provid-

ed with a transparent window (31) for the viewing of the advertisements (4), an internal receptacle (11) for the positioning of some covers (5) on to which the respective advertisements (4) to be displayed are housed, some means of pulling the successive advertisement covers (5) and some means of rear lighting (6) for the advertisement (4) on display at each moment; **characterised in that** the casing is made up of a rear closing plate (1) and by a front plate (2) that defines the upper and lower edges and the semi-cylindrical configurations (21 and 22), hollows and horizontal parts, provided with mouth openings (23 and 24) facing each other for the introduction and extraction of the covers (5); on to the configurations (21 and 22) two vertical guides (25) are mounted for the support of the sides of the covers (5).

2. Display, according to the above claim, **characterised in that** the covers (5) are made up of two transparent sheets (51 and 52) that are joined by one of their ends, defining the sheet (51) at the free end a closure overlap (54) for the introduction of the free end of the sheet (51).
3. Display, according to the above claims, **characterised in that** the covers (5) have at the top and bottom ends one each open connecting profile (53) towards the opposing sides of the cover and orientated towards central area of same.
4. Display, according to the above claims, **characterised in that** the connecting profiles (53) and the sheet (52) have a smaller width than the sheet (51), defining these two lateral bands (55) which make up the means of support of the cover (5) on the vertical guides (25) and on the pulling means.
5. Display, according to the above claims, **characterised in that** the covers (5) have a flap (57) on the side corresponding to the closure overlap (54).
6. Display, according to the above claims, **characterised in that** the receptacle (11) is defined between the rear closing plate (1) and the front plate (2) of the casing.
7. Display, according to the above claims, **characterised in that** the exit mouth (24) defines a front protrusion (26) against which the end section (53) of the first cover (5) to be removed from the receptacle (11) acts, said section (53) adopting a certain inclination towards the rear area of the display.
8. Display, according to the above claims, **characterised in that** the exit mouth (24) has a brush (27) on the rear side which applies pressure to the cover (5) with movement towards the protrusion (26) ensur-

ing that the connecting of the profiles (53) of the consecutive covers (5).

9. Display, according to the above claims, **characterised in that** at the exit mouth (24) a brush (28) is fitted which applies pressure on the covers (5) towards the rear area of the display ensuring its tension. 5
10. Display, according to the above claims, **characterised in that** on the sides of the exit mouth (24) there are two flat springs (29) that apply pressure on the side bands (55) of the covers (5) against the inner surface of semi-cylindrical configuration (22). 10
11. Display, according to the above claims, **characterised in that** the means of illumination (6) of the advertisements (4) are fixed onto the front plate (2), between the two semi-cylindrical configurations (21 and 22). 15 20
12. Display, according to the above claims, **characterised in that** the means of pulling the covers (5) include two driving wheels (7) driven by a motor (71) by means of a common axle (72), some means of applying pressure of the side bands (55) of the cover (5) on said wheels (7) and some means of controlling the working of said motor (71). 25
13. Display, according to the above claims, **characterised in that** the driving wheels (7) are made up of, at least on the surface in contact with the cover (5), of a flexible material. 30
14. Display, according to the above claims, **characterised in that** the driving wheels (7) are arranged inside of the semi-cylindrical configuration (21) and in connection with the side ends of it. 35
15. Display, according to the above claims, **characterised in that** the means of applying pressure from the cover (5) against the driving wheels (7) are made up of some wheels (73), of an elastic material, fixed by means of self-orientating bearing on one each tensioners with an axle (74) supported to a lever (75) on which the spring (76) acts. 40 45
16. Display, according to the above claims, **characterised in that** the means of controlling the working of the motor (71) which will be comprised of a capacitor detector (8), which will cause the motor to stop when one of the covers (5) is placed into a visible position and, by a timer that causes the starting of the motor (71) when the pre-established display time for the sheet (4) has elapsed. 50 55
17. Display, according to the above claims, **characterised in that** the cover (5) has a metallic insert (56)

in one of the side bands (55) of the sheet (51), which activates the capacitor detector (8) when it comes up against it.

18. Display, according to the above claims, **characterised in that** the upper end of the guides (25) has a brush (9) fitted, connected to earth and acts on the cover (5) in motion, discharging the static electricity.

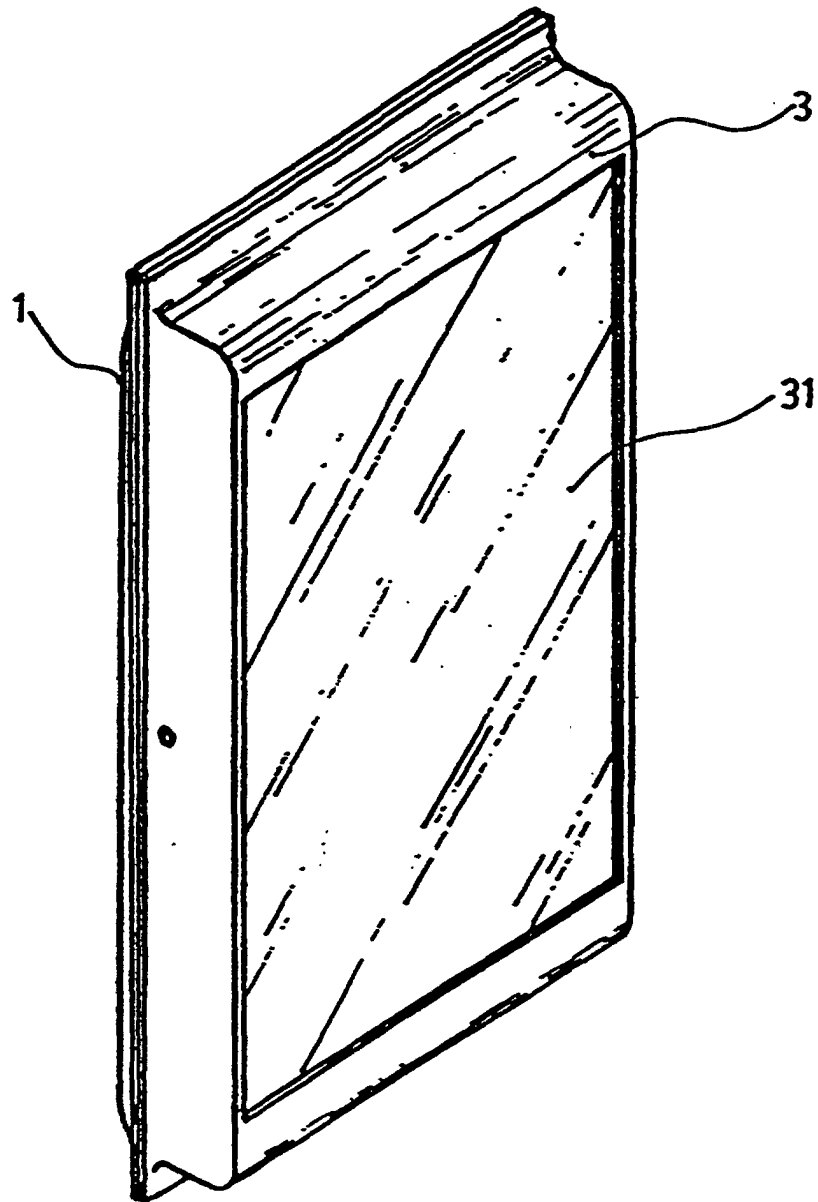


Fig. 1

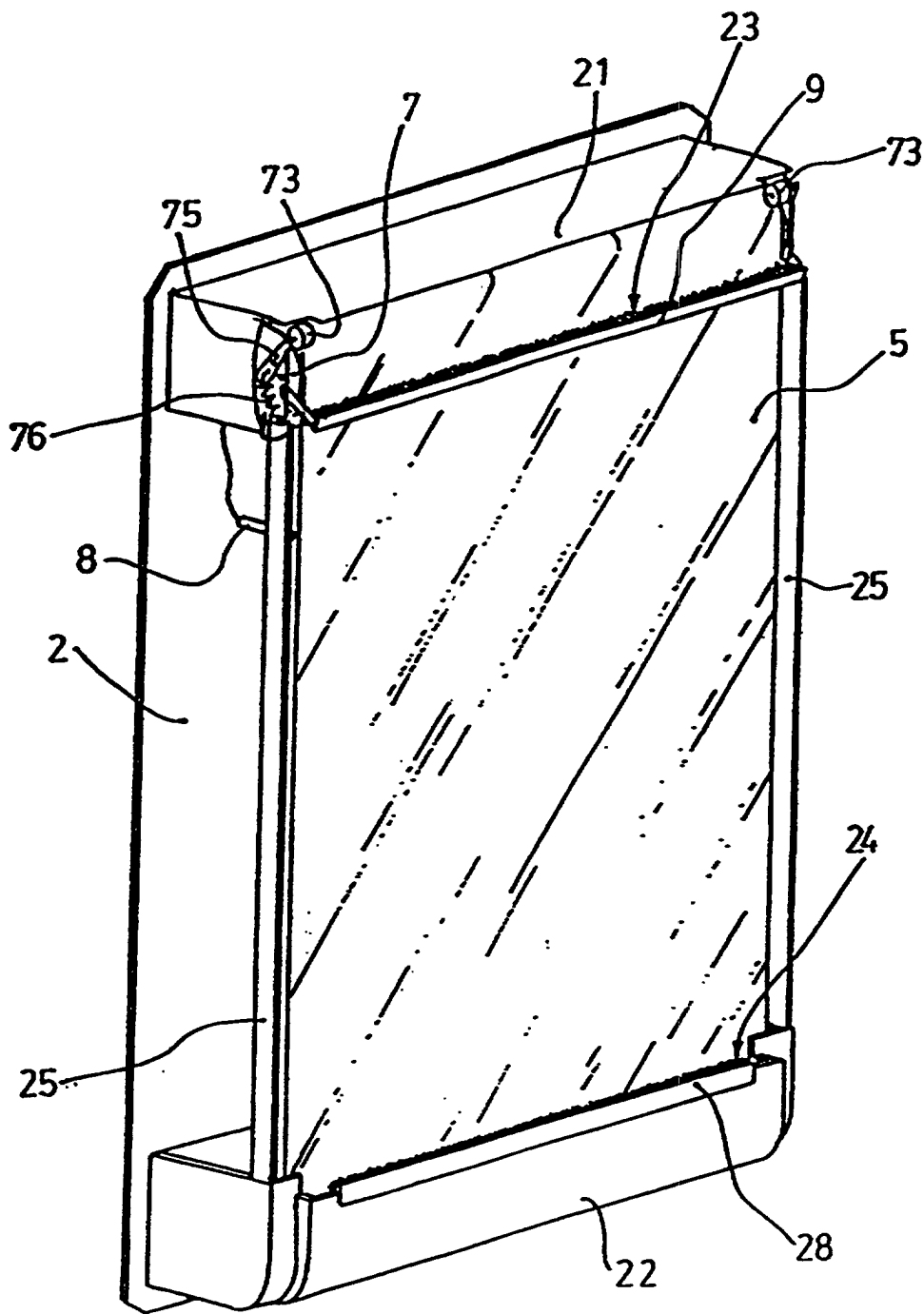


Fig. 2

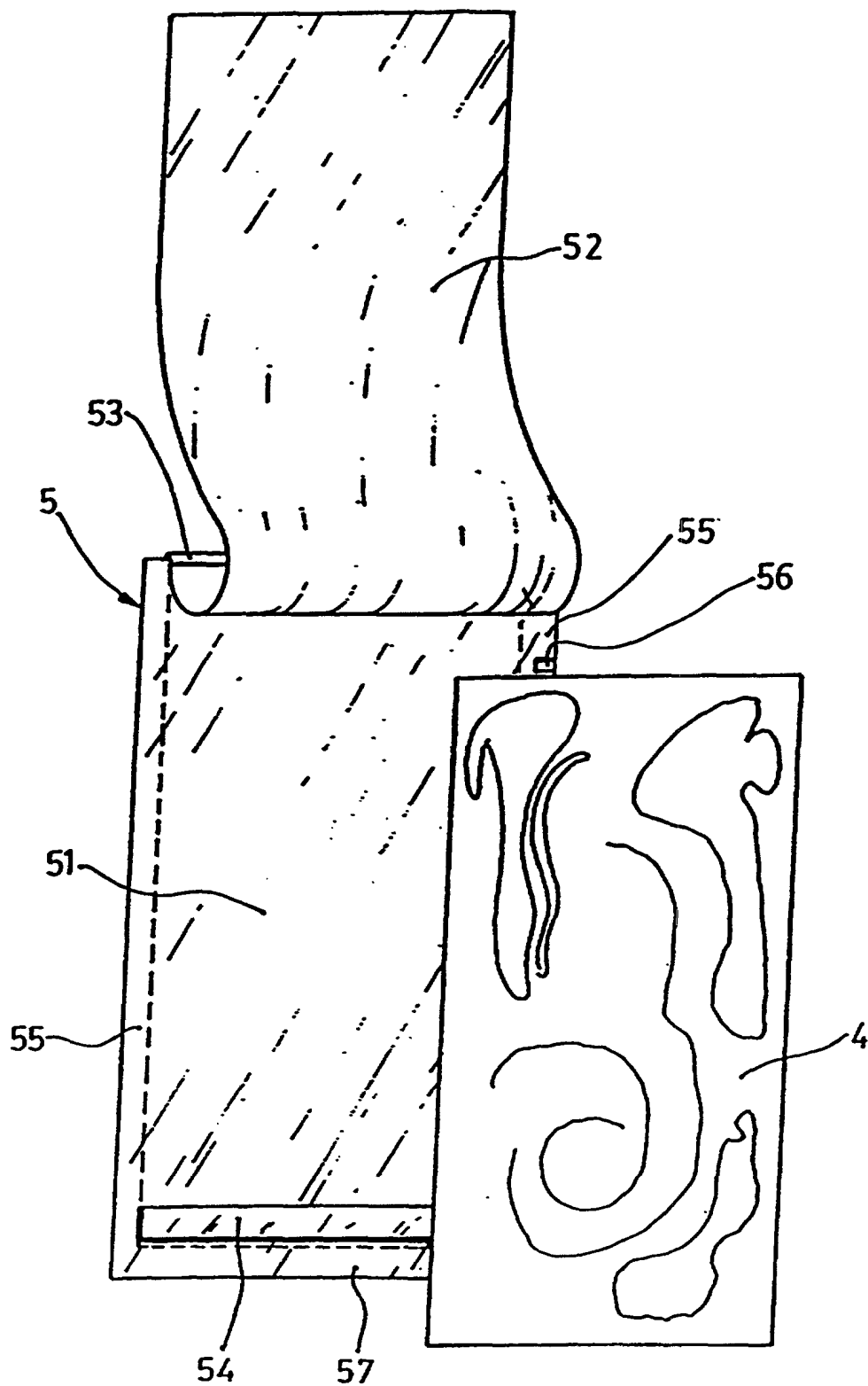
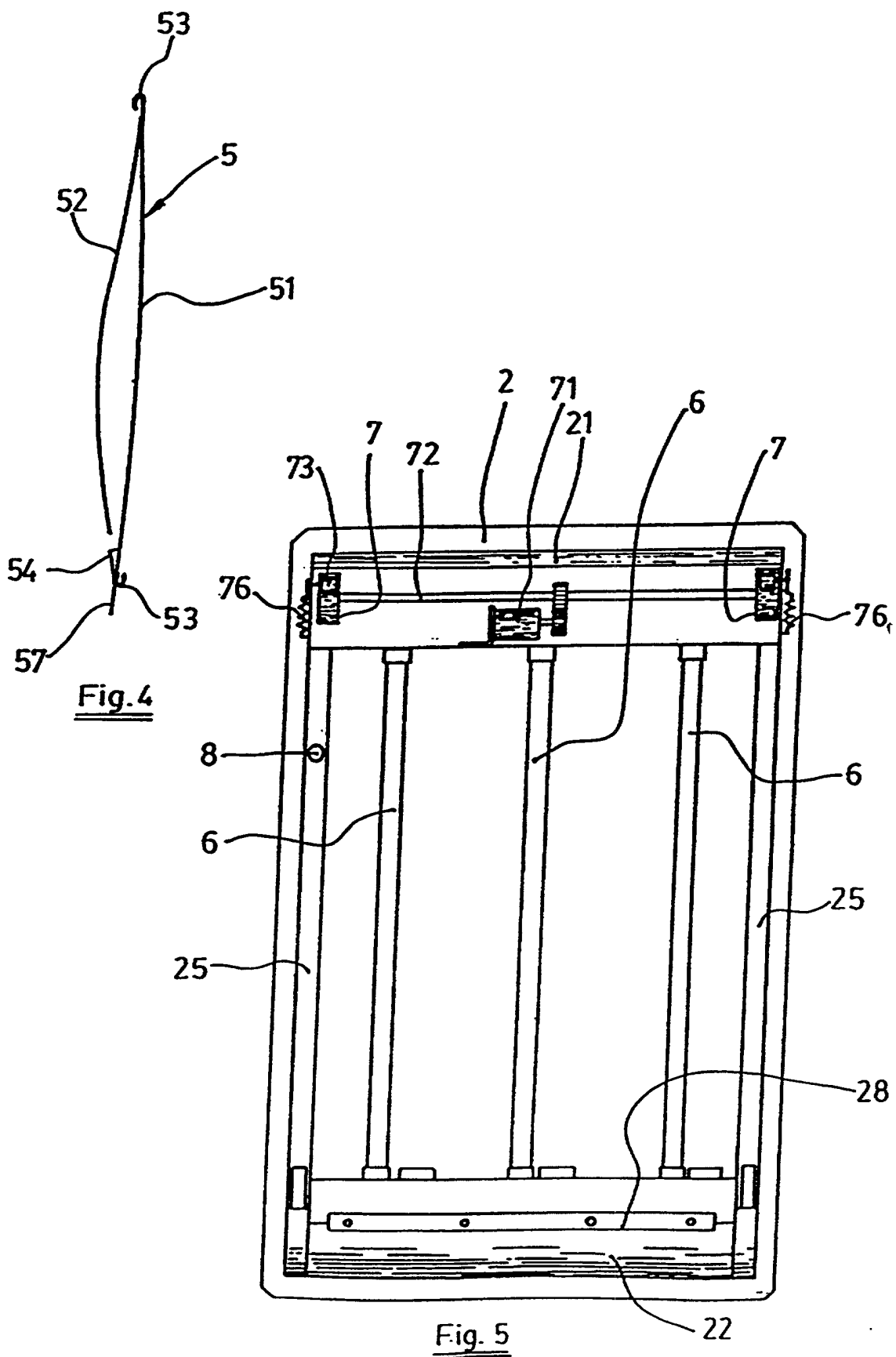


Fig. 3



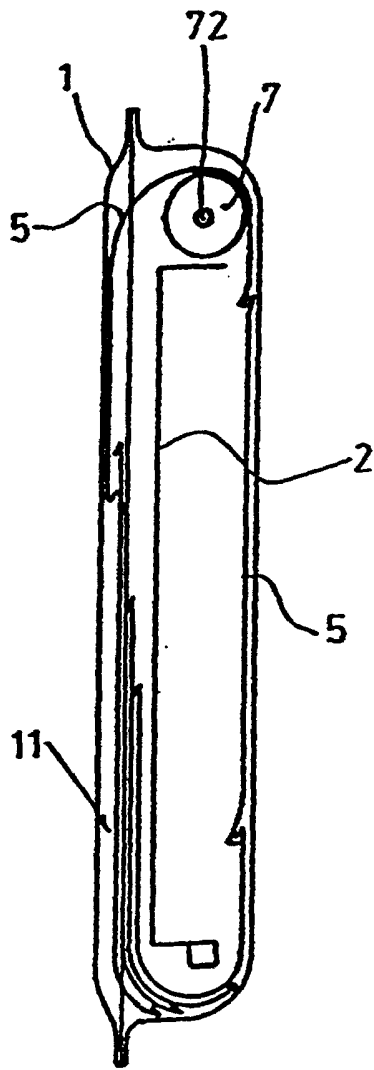


Fig. 6

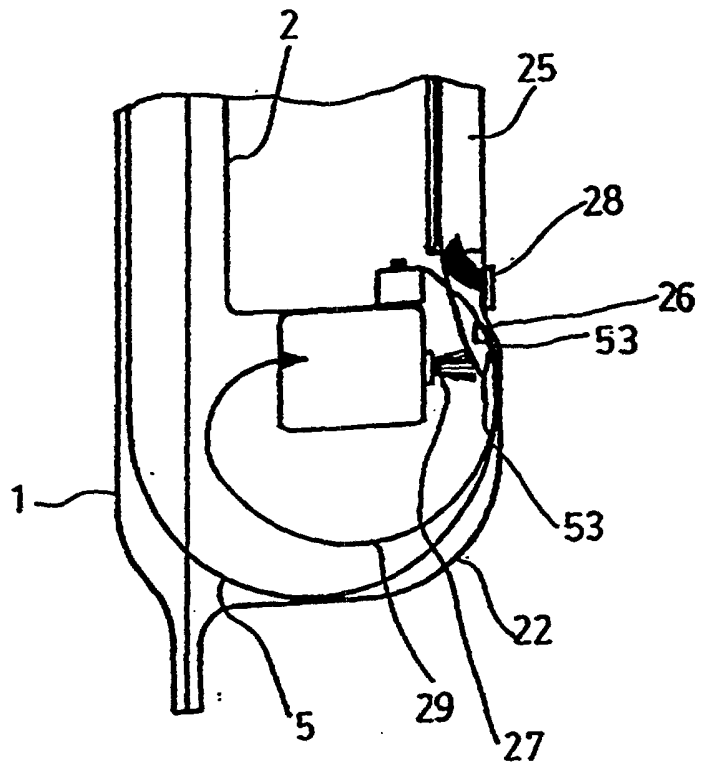


Fig. 7

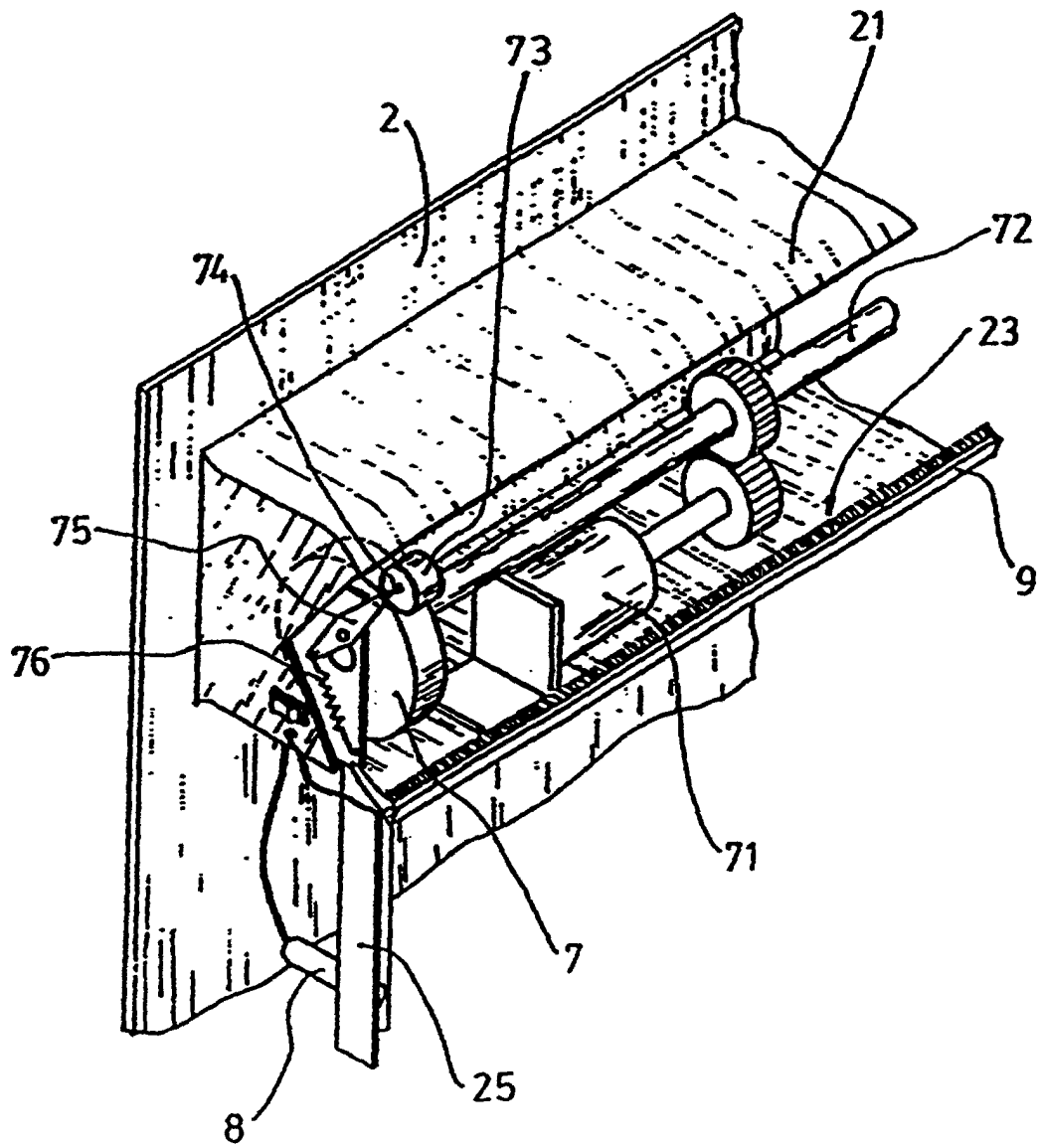


Fig. 8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES ES00/00414

A. CLASSIFICATION OF SUBJECT MATTER		
IPC ⁷ : G09F11/30 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 : G09F		
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) EPODOC, WPI, PAJ, CIBEPAT		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ES2088589T (FASSAUER) 16 August 1996 (16.08.96) column 2, lines 17-36 ; column , lines 1-6 ; figures 1,3	1,3,6,14
A		1,11,16
A	EP 0439235A (JOHANNSMANN) 31 September 1992 the whole document	1,6,11
	EP0877351A (NEW BOARD) 11 November 1998 (11.11.98) the whole document	1,2
☐ Further documents are listed in the continuation of box C. ☒ Patent family members are listed in annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 26 January 2001 (26.01.01)		Date of mailing of the international search report 02 February 2001 (02.02.01)
Name and mailing address of the ISA/ SPTO		Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT
 Information on patent family members

 International Application No
PCT/ES00/ 00414

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