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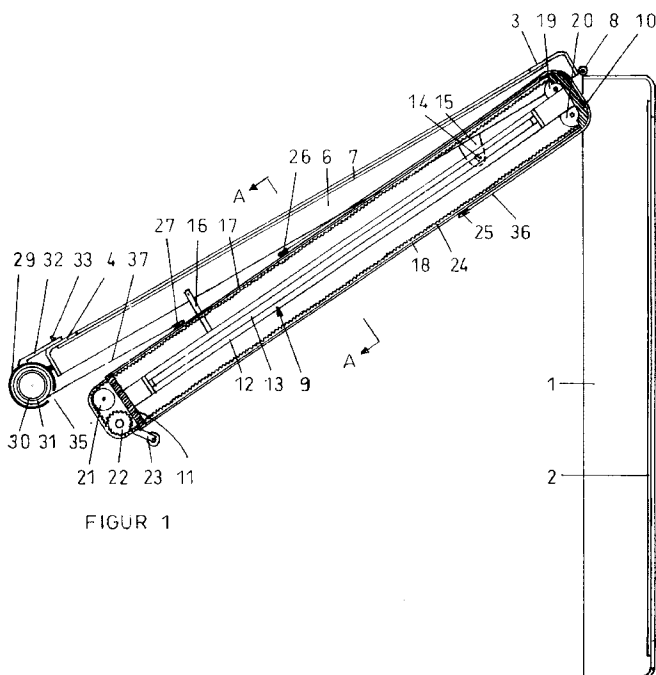
(54) Arrangement at poster cabinet

(57) Arrangement in a poster cabinet of the kind that contains two paper posters facing in opposite directions and illuminated from behind (36,37), where there is outside each poster a flat, transparent cabinet side (2,7) and inside each poster a translucent layer (17,18), between which the lighting (13) is situated,

characterised in

- that one cabinet side (1) may be fixed whilst the other (7) is pivotally articulated in the upper part (8) of the cabinet so that its lowest part can be swung outwards/upwards from the lower part of the cabinet,

- that the translucent layers (17,18) are fixed to a frame (9) which is pivoted so that its lowest part can be swung outward/upward from the lower part of the cabinet when the side of the cabinet is open,
- that the frame is connected to the cabinet side so that when the cabinet side is raised, the frame pivots upwards so that such a large space is formed between the lower part (4) of the cabinet side and the translucent layer (17) closest to it, that the posters can be attached and loaded into this space, and
- that there is a loading space for the posters, pivoted in the lower part of the frame.



FIGUR 1

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Description

The present invention relates to an arrangement at poster cabinets of the kind that contain two paper posters facing opposite directions and illuminated from behind, where there is outside each poster a flat, transparent cabinet side and inside each poster a translucent layer, between which the lighting is situated.

Such cabinets have been common for a long time. They are either free-standing, in which case they usually stand on a base, or they take the form of a gable end in bus and tram shelters. The posters are usually Eurosize, ie they are about 120 centimetres wide and about 180 centimetres high. The sides of the cabinets usually have a sheet of hardened glass. In the cabinets there are a number of fluorescent tubes and between each poster and the fluorescent tubes there is an opaque acrylic plastic sheet, for example three millimetres thick. This sheet is fixed at its edges. The sheet is limp, and the force required to make it bulge is insignificant. Different heating, for example due to solar radiation on dark and light parts of the poster, may cause the sheet to bulge since its coefficient of longitudinal expansion is great. The surface of the sheet will therefore not be reliably parallel to the glass in the side of the cabinet.

In practice it has been found that poster paper which has become damp or wet swells, so that creases appear in the paper. The depth of these creases can often be as much as ten millimetres, since the acrylic can, apart from at its edges, bulge so that there is space for these creases. In addition it is common for there to be a certain gap between the glass and the acrylic sheet even when the sheet is completely flat. The creases can be very ugly and greatly devalue an advertising message.

The purpose of the invention is to prevent the poster paper from creasing and to allow quick and simple changing of posters. A further purpose is to make poster changing in high winds easier. A further purpose is that there should be no need to manually remove or load a poster at a great height above the ground.

The invention has the particular characteristics that are stated in the claims.

An embodiment of the invention will be described below with the aid of diagrams.

Figure 1 shows a poster cabinet viewed from the side, in section.

Figure 2 shows the cabinet according to Figure 1, viewed on section A-A.

In the diagrams certain dimensions have been exaggerated for reasons of clarity and parts that are not relevant to the invention have been omitted. The number 1 refers to the fixed part of the cabinet, which may be fixed to a base or fitted to a frame in a bus shelter. The fixed part of the cabinet may be made of L-shaped aluminium extrusions assembled to form a frame consisting of an upper part, a lower part and two

side parts. A sheet of hardened glass is mounted in the frame.

The other side of the cabinet can be opened. It also consists of L-shaped extrusions. Here, the upper extrusion is numbered 3, the lower 4 and the two side extrusions 5 and 6. These are assembled to form a frame in which the sheet of glass 7 is mounted. The cabinet side is articulated at the top on hinge 8 so that its lower part can be swung out/up from the fixed part of the cabinet.

A frame generally numbered 9 consists of an upper part 10 curved at the top and a lower part 11 and between these, three rods 12. Four fluorescent tubes 13 are mounted between the upper part and the lower part. The frame is rotatably articulated around journals 14 in lugs 15, which are fixed to side extrusions 5 and 6. Fabric straps 16 limit the movement of the frame relative to the opening cabinet side. An opaque polyester film 0.25 millimetres thick, 1220 millimetres wide and 3800 millimetres long is attached at its short end at the lower part 11 and placed over the curved upper part 10 and attached at its other short side to lower part 11. The polyester film thus forms two translucent layers 17 and 18. There must be an arrangement, not shown on the diagram, for firmly tensioning the film so that it is taut. On either side of the frame there are at the top two pulleys 19 and 20 and at the bottom two pulleys 21 and 22, one of which, 22, is a toothed belt pulley. The two toothed belt pulleys are fixed to a common shaft. A crank 23 is also fixed to this shaft. A toothed belt 24 runs over the four pulleys on each side. Three strips 25, 26 and 27 are attached at their ends to the upper sides of the toothed belts. On each strip close to its ends there is a small attaching arrangement 28 in which the poster paper can be gripped. Small pins can then penetrate the paper.

The number 29 refers to a cassette in which a cardboard bobbin 30 can rotate. Posters 31 are rolled up on the cardboard bobbin. On the upper side of the cassette there are two arms 32 which can be placed on pins 33 on extrusion 4. The cassette has a soft rubber strip 34 which, because of the weight of the cassette, seals against the lower extrusion 4 of the cabinet side. At the bottom the cassette has an opening gap 35 through which posters can emerge. The bobbin with posters can be inserted through one side panel of the cassette. The bobbin can be excluded, in which case the cassette contains only rolled-up posters.

Figure 1 shows a poster 36, the four corners of which are attached to the strips 25 and 26. The second poster 37 of the cabinet is attached by its top two corners to the third strip 27. In the diagram, the major part of this poster is still inside the cassette.

The procedure for changing the message is: first the side of the cabinet is swung up and hooked in the raised position. Gas springs may be used to balance the weight of the cabinet side. These, and the hooking arrangement, are not shown as they do not affect the invention. The lowest part of the frame 9 moves away from the side

of the cabinet on account of its weight and the position of bearing 14. Because of the fabric straps 16 the frame opens by a predetermined amount. The cassette 29 with rolled-up posters is suspended on the lowest part of the cabinet side owing to the fact that the cassette arms 32 engage pins 33. The rubber inner edge 34 of the cassette then presses weakly against the lower edge of the cabinet side and water, as in the case of rain, runs down on to the rubber strip and then to the sides.

The two old posters can be removed by hand simply by pulling them out. In addition to the new posters the cassette can also have a roller, for example a cardboard bobbin, on which the old posters can be rolled up. When the old posters have been removed, the first strip 25 should be above the layer 17, close to its lower edge.

The outer poster in the cassette is pulled out a short way and its two corners are attached to the two attaching arrangements 28 of the strip, after which the crank is turned, and the strip 25 then moves along the layer 17 and the poster is unrolled from the cassette. When the strip has got close to the upper part of the layer, the entire poster has come out of the cassette. The two corners of the poster that have now come out are attached to the attaching arrangements of the second strip 26. On continued cranking, the first strip 25 moves close over the bent polyester film at the upper end of the frame and the third strip 27 comes out over the first layer 17 close to its bottom part. The second poster 37 is pulled out with its upper part first and the corners of the poster are attached to the attaching arrangements of the strip. The crank is then turned so much that the upper part of this poster comes close to the upper end of the layer adjacent to the upper part of the frame. The lower part of the poster has now come out from the cassette. There may possibly be a fourth strip to which the bottom corners of this poster can be attached. After this the cassette is removed and the side of the cabinet is swung down. The lower part of the frame 9 then comes close to the cabinet side and the two translucent layers 17 and 18. The cabinet side is locked at the fixed part of the cabinet and the change is complete.

Instead of the cassette for each cabinet having two loose posters, they may, before being placed in the cassette, have been glued together with an intermediate paper so that they are about 20 centimetres from each other. The two posters with the glued-on intermediate paper thus form one length and it may then be enough to attach the first poster at the first strip 25. The second strip 26 and the third strip 27 are then unnecessary. Such a procedure facilitates the change at the cabinet by requires additional work beforehand, although this can be done indoors. It may be possible to print the advertising messages on a length of paper about 3.8 metres long.

Instead of having the two translucent layers arranged as in the diagrams, they may take the form of an endless plastic belt and at each end of the frame there may be a roll with a diameter of, for example, 12 centimetres or two rolls with a smaller diameter so that the

distance between the layers becomes 12 centimetres. By, for example, using adhesive tape to attach the lower and upper corners of the first poster to the plastic belt and the upper corners of the second poster to this and then cranking so that the belt moves, the posters can be correctly positioned. Instead of adhesive tape, there may be attaching arrangements of another kind fixed to the plastic belt.

Naturally there must be an arrangement for holding the translucent layers stretched between the ends of the frame, by means of springs for example.

A benefit from the arrangement according to the invention is that changing of the two posters can be done quickly and simply. Because of the cassette and the fact that the poster cannot get wet when installed during rain, the formation of creases when doing this is avoided.

Because the poster goes directly from the cassette to the feed arrangement close under the cabinet side, the poster is not affected by strong wind.

Because operations for removing and loading the posters can be done at a convenient height above the ground, the change is made easier.

Because the translucent layers are thin and can be kept under tension, they remain taut and flat and the poster can maintain a distance from the glass of the side of the cabinet, thus avoiding contact with it. When condensation forms on the cooled glass surface, it is hard to avoid condensation being deposited on the inside of the glass as well. It is important that the poster does not come into contact with it then.

Claims

1. Arrangement in a poster cabinet of the kind that contains two paper posters facing in opposite directions and illuminated from behind (36, 37), where there is outside each poster a flat, transparent cabinet side (2, 7) and inside each poster a translucent layer (17, 18), between which the lighting (13) is situated,

characterised in

- that one cabinet side (1) may be fixed whilst the other (7) is pivotingly articulated in the upper part (8) of the cabinet so that its lowest part can be swung outwards/upwards from the lower part of the cabinet,
- that the translucent layers (17, 18) are fixed to a frame (9) which is pivoted so that its lowest part can be swung outward/upward from the lower part of the cabinet when the side of the cabinet is open,
- that the frame is connected to the cabinet side so that when the cabinet side is raised, the frame pivots upwards so that such a large space is formed between the lower part (4) of the cabinet side and the translucent layer (17)

closest to it, that the posters can be attached and loaded into this space, and

- that there is a loading space for the posters, pivoted in the lower part of the frame.

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2. Arrangement according to claim 1, **characterised** in that the frame (9) is rotatably pivoted in the side of the cabinet.

3. Arrangement according to one of the above claims, **characterised** in that the two translucent layers (17, 18) are fixed and that the loading arrangement can be moved immediately outside them.

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4. Arrangement according to claim 3, **characterised** in that the loading arrangement consists of two endless belts (24) or chains between which there are strips (25, 26, 27) carrying attaching arrangements (28).

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5. Arrangement according to claim 4, **characterised** in that, for the poster (36) that is loaded with its bottom edge first, there is an attachment arrangement (26) where its top edge can be attached.

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6. Arrangement according to one of the above claims, **characterised** in that the two translucent layers consist of an endless belt carried on rollers in the frame, where the posters can be attached to the belt and this can be moved by rotating a roller in the lower part of the frame so that the posters take up the correct position.

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7. Arrangement according to one of the above claims, **characterised** in that a cassette (29) containing rolled-up posters (31) can be removably attached to the lowest part of the cabinet side so that posters can be loaded without getting wet.

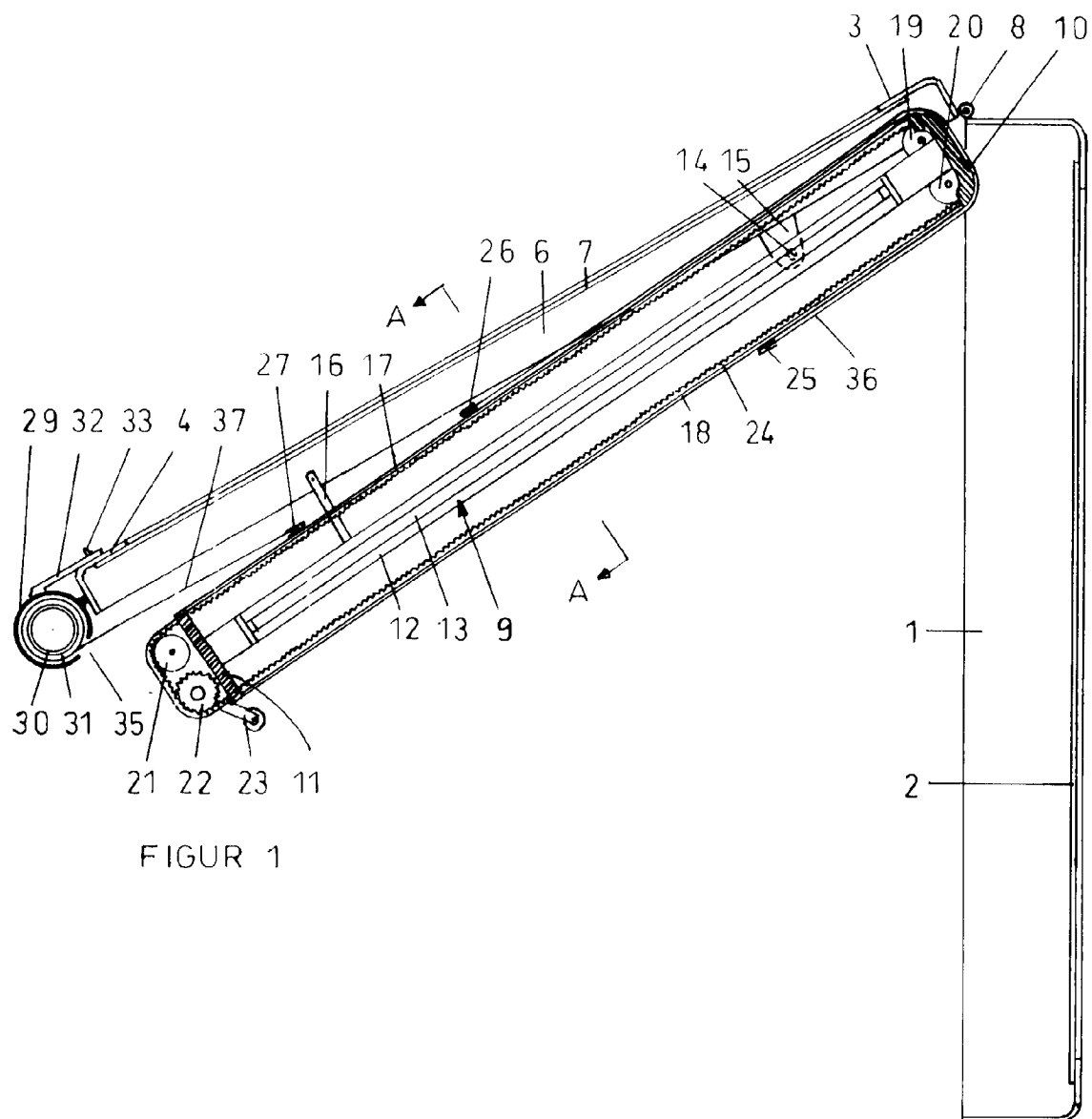
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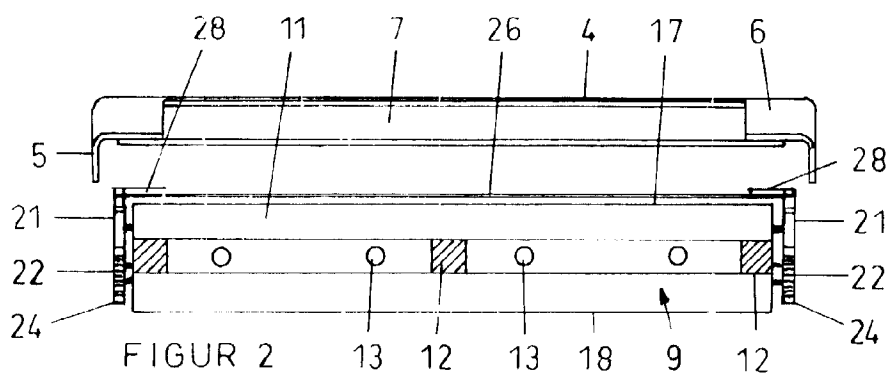
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FIGUR 1



FIGUR 2



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EUROPEAN SEARCH REPORT

Application Number
EP 98 85 0118.5

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)
A	GB 2290901 A (ADSHEL LIMITED), 10 January 1996 (10.01.96) --	1	G09F 13/04
A	EP 0768635 A1 (BASSOULS, P.-H.), 16 April 1997 (16.04.97) --	4-7	
A	WO 9428534 A1 (COATES SIGNCO PTY. LIMITED), 8 December 1994 (08.12.94) --	1	
A	FR 2344084 A1 (CATTEAU, J.), 7 October 1977 (07.10.77) --	1	
A	US 5410830 A (R.B. AIKEN, SR.), 2 May 1995 (02.05.95) -----	1	TECHNICAL FIELDS SEARCHED (Int. Cl.6) G09F
The present search report has been drawn up for all claims			
Place of search STOCKHOLM		Date of completion of the search 29 September 1998	Examiner EDDIN MARIANA
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