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(54) Device for showing pictorial displays, as advertisements and such like.

(57) Device for showing pictorial displays (18) comprising a housing (1) with a transparant front panel (17), a number of rollers (11,12) positioned inside said housing for guiding an endless transparant web of foil (16), a driving means (21) for one of said rollers (11) and at least one lamp (22) positioned behind said web of foil (16), said pictorial display (18) being in the shape of a number of printed sheets, one of the transverse edges (19) of a sheet (18) being directly connected to said web of foil (16) by means of double sided adhesive tape and the other transverse edge (20) being connected in such a way that it may execute a limited movement in the longitudinal direction of said web of foil (16) and in the direction square to this.

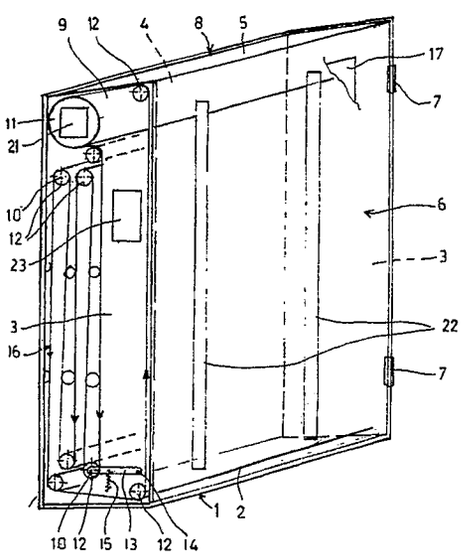

FIG. 1

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DEVICE FOR SHOWING PICTORIAL DISPLAYS, AS ADVERTISEMENTS AND SUCH LIKE

The invention relates to a device for showing pictorial displays as advertisements and such like, said device comprising a housing with a transparant front panel, two rollers running parallel to each other and positioned directly behind said panel and near the ends of this, a number of further rollers positioned behind said first mentioned rollers, an endless transparant web of foil being carried by said rollers, the displays to be shown being applied on said web, at least one lamp positioned behind said web of foil and a driving means for at least one of said rollers over which said transparant web of foil is guided.

Such a device is known from FR-A-735,995. In case of this known device the web of foil is executed double walled, a small strip being applied between the webs near one longitudinal side of these. Then from the other longitudinal side either characters or signs can be slid between the webs.

A disadvantage of this device is, that the closed longitudinal side has to run in horizontal direction and that the height of the web cannot be too large because otherwise the characters or signs will not remain in their exact position. Further applying the characters or signs between the two webs of foil is cumbersome and time consuming. Because the webs of foil are alternately bent in two different directions and so the one web of foil is positioned at the inner side of the bend near the one roller and at the outer side of the bend near the next roller, said webs of foil will try to move in respect of each other so that considerable forces will be exerted on the small strip of material connecting said webs. Also by this the characters or signs, present between said webs of foil will be subjected to shiftings.

Now the invention removes these disadvantages and to that end it is provided that the pictorial display which has to be shown is in the shape of a number of printed sheets, e.g. is shaped by posters or such like, said sheets being applied on said web of foil to which end one of the transverse edges of a sheet is directly connected to said web of foil by means of double sided adhesive tape and the other transverse edge is connected to said web of foil in such a way that this transverse edge may execute a limited movement in the longitudinal direction of said web of foil and in the direction square to this.

So only one web of foil need to be present and the display can be provided on that side of said web of foil being directed towards the transparant front panel. By executing this panel such that e.g. it can be pivoted away, the exchange of a sheet is particularly simple.

In this case it will particularly be attended that the transverse edge of a sheet which is fixedly connected to said web of foil is the leading edge of the sheet as seen in the direction of movement of said web of foil. When now the place of connection between said foil and the transverse edge of sheet arrives near a roller over which the web of foil is bent, then the further portion of the sheet may slid somewhat in respect of said web of foil when said web of foil passes over said roller. When the sheet is present at the outer side of the bend then the movable provided transverse edge of the sheet will move somewhat in the direction of movement of the web of foil. When the sheet is present at the inner side of the bend, the transverse edge will move somewhat in the reverse direction in respect of the web of foil.

In most cases the length of the sheet will substantially correspond with the length of the front panel, measured square to the center lines of the two rollers positioned directly behind it.

Such a sheet can easily be applied on the foil and e.g. can be in the shape of a poster.

In case of such a device the web of foil can be stopped during a given time when a poster is visible as a whole. After this the web of foil is brought into movement again till a next poster is visible and this process can be repeated continuously.

The fact that the one transverse edge of a sheet is not fixedly connected to the web of foil also has the advantage that changes of length of the sheet in respect of the web of foil, such as by temperature and humidity influences, can be absorbed without causing pleats or folds in the sheet.

For further opposing the existence of pleats and folds in the sheet it can be provided, that further guiding rollers are present between said reversing rollers and being positioned such that they engage the sheet to press this against the web of foil.

The invention also relates to the means for movable connecting the transverse edge of a sheet to the web of foil. In this case said means is formed by a first strip of foil extending transverse to said web of foil and being connected to this along the edge of said strip such as by means of double sided adhesive tape, a number of incisions being provided in said first strip square to its longitudinal direction, a second strip of foil extending through said incisions, the width of this strip being smaller than the length of said incisions, said strip alternately being present in front of and behind said first strip of foil, the edge of a sheet being fixed to those portions of said second strip

which are present in front of said frist strip of foil, by means of doube sided adhesive tape having a smaller length than the length of said second strip of foil between two incisions.

So said second strip of foil, by which at the end the edge of a sheet is connected locally, is twined through said first strip. Because said second strip is smaller than the incisions in said first strip, said second strip may move over a given distance in the direction of movement of the web of foil. Because the length of the pieces of double sided adhesive tape, by which the edge of the sheet is connected to said second strip of foil, is smaller than the distance between two succeeding incisions, said second strip of foil may move somewhat in respect of said first strip being fixedly connected to the web of foil. The edge of the sheet being connected to said second strip of foil so may move as well in the direction of movement of the web of foil as in the direction square to this. By this also irregular elongation or contraction of the sheet can be absorbed.

The invention is further described by means of an embodiment, shown in the drawing, in which:

Fig. 1 schematically shows a perspective view of the device, certain portions being omitted for the sake of clearness;

Fig. 2 schematically shows a vertical cross section of the device of Fig. 1;

Fig. 3 shows a view of a connecting strip for an edge of a sheet which has to be placed in the device; and

Fig. 4 shows a cross section according to the line IV-IV of Fig. 3 over a connecting strip applied on a web of foil.

In the Figs. 1 and 2 of the drawing given parts are omitted for the sake of clearness or are only partly shown. The device comprises a housing 1, consisting of the bottom 2, the side walls 3, the back wall 4, the upper wall 5 and the front wall 6. The front wall 6 is connected to the one side wall 3 by means of pivots 7 and by this is in the shape of a pivotable door.

In the housing 1 a frame work 8 can be positioned which in particular comprises the side plates 9 which are connected to each other in a not further shown way.

A number of fixedly positioned bearing supports 10 are provided in the side plates 9 for rotatably supporting a drive roller 11 and a number of reversing rollers 12. Both ends of one of the reversing rollers 12 is received in a bearing support 10 being connected with one of the ends of an arm 13, the other end of said arm being pivotably supported by the side plate 9 in the point 14. Each arm 13 is pulled downwardly by means of a spring 15.

A transparant endless web of foil 16 is running over the rollers 11 and 12 and extends itself along the front wall 6, said front wall to this end being provided with a transparant panel 17. A number of displays 18 are provided on the web of foil 16, as e.g. in the shape of sheets of paper on which given displays are printed. The upper edge 19 and the lower edge 20 of the sheets 18 are connected to the web of foil 16 in a way which will be described afterwards.

It will be obvious that by means of the arms biased by means of the spring 15, as described above, and the roller 12 which is rotatably supported by said arms, the web of foil 16 can be held tensioned.

The drive roller 11 may consist of plastic and the outer circumference of it can be provided with a wear resisting and rough material so that the web of foil 16 is always positively taken along. The roller 11 can be motorically driven e.g. by a motor 21 provided in it. It is, however, also possible that the motor is provided beside the roller 11 and is driving the roller 11 e.g. by means of a belt. To make the display 18 visible through the transparant panel 17 of the front wall 6 and through the transparant web of foil 16 a number of lamps 22 are provided in the frame 8. This e.g. may be fluorescent lamps.

For controlling the motor 21, for switching in and out the lamps 22 etc. inside the device a control uit 23 can be provided, to which electric current is supplied from the outside in a not further shown way.

The control unit 23 can be executed such that each time when a display 18 is totally or nearly totally visible through the panel 27, the motor 21 is stopped during a given time. Thereafter the motor can be switched in again till a next display is totally visible. The time during which a display is visible e.g. can be stepless adjusted from 0 to 120 seconds.

The upper edge 19 of the sheet 18 can be connected to the web of foil by means of double sided adhesive tape. The lower edge 20 of the sheet 18 can be connected to the web of foil 16 in the way as this is in particular shown in the Figs. 3 and 4.

A transparant strip of foil 25 is connected to the web of foil 16 by means of two strips double sided adhesive tape 24, said strip being provided with a number of incisions 26 through which a second strip of foil 27 is running. So the portion 27a of the strip 27 is present behind said first strip 25 so that it is held by this strip. The portions 27b of the strip 27 are positioned before the strip 25 and are connected to the lower edge 20 of a sheet 18 by means of pieces of double sided adhesive tape 28.

Because the width A of the strip 27 is smaller

than the length B of the incisions 26 the strip 27 can slide somewhat in the longitudinal direction of the foil 16. Because further the length L of the piece of double sided adhesive tape 28 is shorter than the length K of a portion 27b of the strip 27 on which the adhesive tape 28 is present, the lower edge 20 of a sheet 18 may move itself also somewhat in transverse direction on the web of foil 16.

By the way described above for connecting the lower edge 20 of a sheet 18 to the web of foil 16 it is obtained that differences of length between sheet and web of foil can be absorbed. Such differences of length may arise by differences in the prevailing temperature and degree of humidity and because the sheet is present e.g. near the outside of the web of foil 16 by the roller 11 and near the inner side of the web of foil by other rollers.

For a good guiding of the sheets present on the web of foil 16, from which sheets only one is indicated in Fig. 2, also between the rollers 12 further guiding rollers 29 are provided. These are also taking care for it that when a sheet 18 is moving with its upper edge 19 upwardly, such as this is the case e.g. directly after the roller 11, the sheet will not hang downwardly because then the lower edge 20 of it will be at the upside.

It will be obvious that only a possible embodiment of the invention is shown in the drawing and is described above and that many deviations can be provided without leaving the inventive concept.

Claims

1. Device for showing pictorial displays (18) as advertisements and such like, said device comprising a housing (1) with a transparant front panel (17), two rollers (12) running parallel to each other and positioned directly behind said panel and near the ends of this, a number of further rollers positioned behind said first mentioned rollers, an endless transparant web of foil (16) being carried by said rollers (12), the displays (18) to be shown being applied on said web, at least one lamp (22) positioned behind said web of foil (16) and a driving means (21) for at least one of said rollers (11) over which said transparant web of foil is guided,
characterized in
that said pictorial display (18) is in the shape of a number of printed sheets, e.g. is shaped by posters or such like, said sheets (18) being applied on said web of foil (16) to which end one of the transverse edges (19) of a sheet (18) is directly connected to said web of foil (16) by means of double sided adhesive tape and the other transverse edge (20) is connected to said web of foil (16) in such a way that this transverse edge (20) may execute a limited movement in the longitudinal direction of said web of foil (16) and in the direction square to this.

2. Device according to claim 1,
characterized in
that the transverse edge (19) of a sheet (18) which is fixedly connected to said web of foil (16) is the leading edge of the sheet as seen in the direction of movement of said web of foil.

3. Device according to claim 1 or 2,
characterized in
that the length of a display (18) substantially corresponds with the length of said front panel (17) measured square to the center lines of the two rollers (12) positioned directly behind it.

4. Device according to one of the preceding claims, characterized in
that further guiding rollers (29) are present between said reversing rollers (12) and being positioned such that they engage the sheet (18) to press this against the web of foil (16).

5. Means for applying in case of the device according to one of the preceding claims,
characterized in
that said means for movable connecting the transverse edge (20) of a sheet (18) to said web of foil (16) is formed by a first strip of foil (25) extending transverse to said web of foil (16) and being connected to this along the edge of said strip such as by means of double sided adhesive tape (24), a number of incisions (26) being provided in said first strip (25) square to its longitudinal direction, a second strip of foil (27) extending through said incisions, the width (A) of this strip being smaller than the length (B) of said incisions (26), said strip alternately being present in front of and behind said first strip of foil (25), the edge (20) of a sheet (18) being fixed to those portions (27b) of said second strip (27) which are present in front of said first strip of foil (25), by means of double sided adhesive tape (28) having a smaller length (L) than the length (K) of said second strip of foil (27) between two incisions (26).

6. A method for movable fixing a sheet (18) to a web of foil (16) by applying the means (24-28) described in the claim 5.

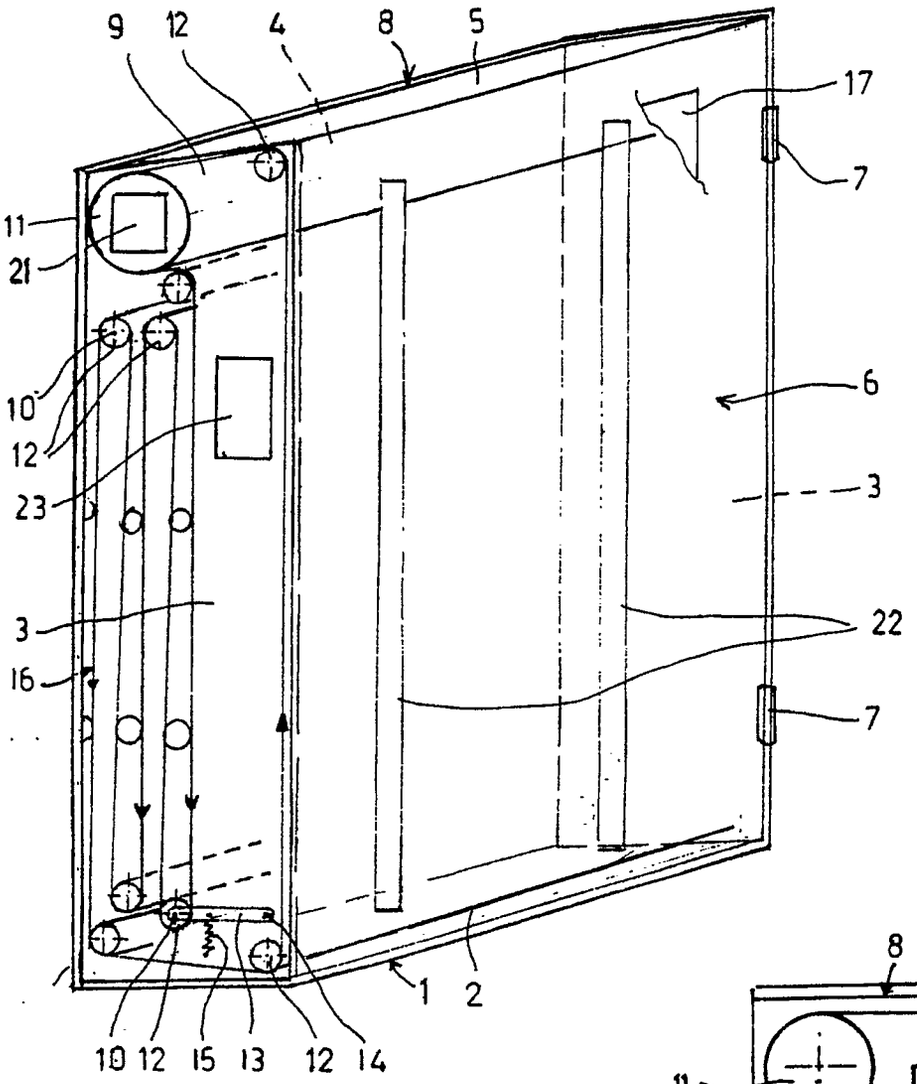

FIG. 1

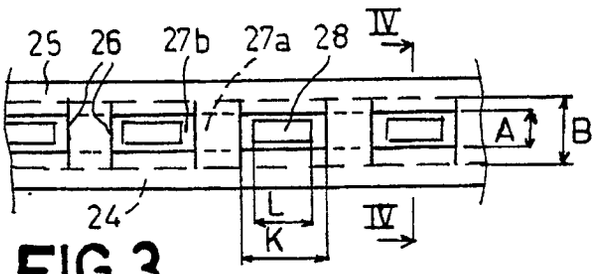

FIG. 3

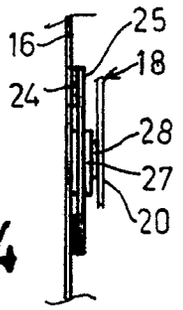

FIG. 4

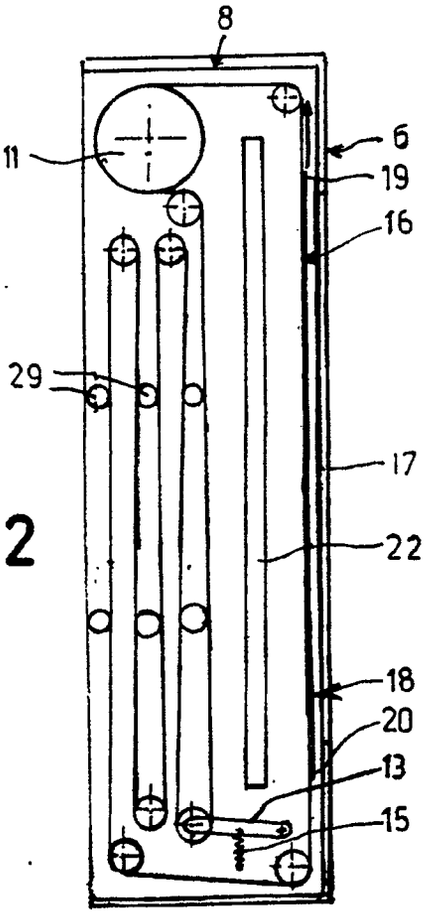

FIG. 2

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EUROPEAN SEARCH REPORT

Application Number

EP 90 20 1703

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.5)
X	FR-A-6 994 88 (DIEM-BERNET-1931) * Figures 1,7,8,11; page 1, line 47 - page 2, line 5; page 5, lines 30-65; page 5, line 103 - page 6, line 46; page 6, lines 76-96 *	1,3	G 09 F 11/15
A		2,4,5,6	
A	CH-A-1 507 58 (DIEM-BERNET-1932) * Figures 1-4; page 1, lines 1-12,22-36; page 2, left-hand column; page 2, last paragraph - end of document *	1-6	
D,A	FR-A-7 359 95 (CHAPUIS-1932) * Figures 1-3; page 1, lines 5-11,21-27 *	1-4	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G 09 F

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	21 November 90	DEROUBAIX P.G.M.

CATEGORY OF CITED DOCUMENTS

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