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(54) **Paper image on flexible support.**

(57) A papery image on support of flexible consistence, particularly blowup or drawing (1), of the type with image coated or coatable by a protective transparent foil in the form of film of plastic flexible material (2), characterized in that the papery support of the image (1) is thermosticked on a cotton fabric (tissue) having about 1 millimeter of thickness (4).

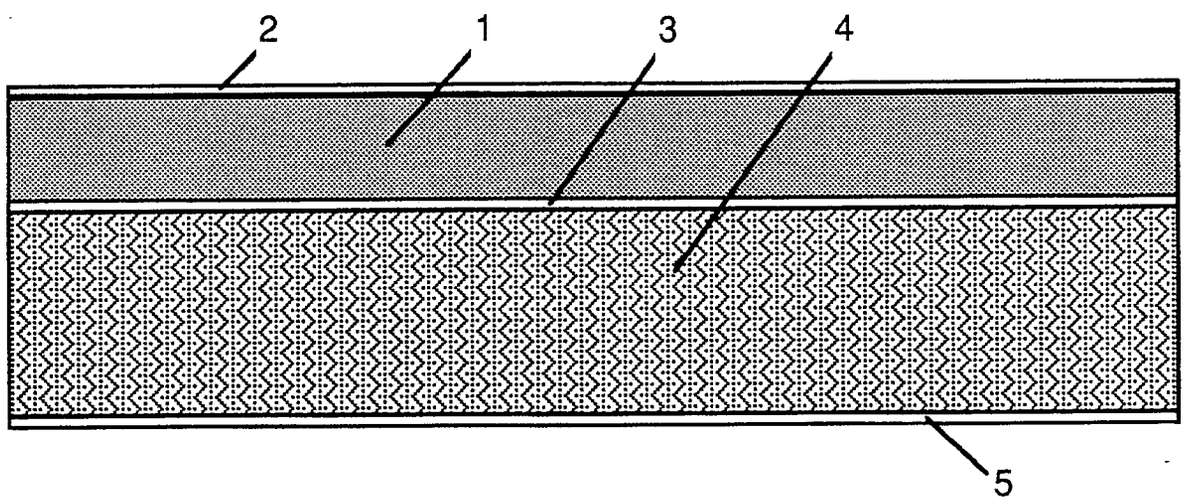


FIG.1

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PAPERY IMAGE ON SUPPORT OF FLEXIBLE CONSISTENCE.

The present invention concerns a papery image on support of flexible consistence.

This solution is conveniently, even if not exclusively applicable for blowups that shall be utilized to be applied on walls or on panels of support for example for exibits, not excluded exibitions in order to avoid damages of the support wall. In prior art is well known that for example for these blowups on photographic paper, the hymage is plasticized by means of sticking or better thermosticking of an adhesive plastifying foil under temperature and pressure and successive sticking of the blowup on a support panel that can be of compensate wood or shaving or also of plastic material.

These supports are careless rigid and thus require high encumber costs for the transport and successively necessitate to be hung to the respective wall by means of nails or hangers.

In certain cases is not possible to use nails, particularly for example in public exibits to avoid damage of the walls of the "stand". Further disadvantages deriving from bubbles easily caused after sticking the hymage (blowup) and easy detach of the blowup from the support wall, particularly for different dilatation of the panel and the papery support that constitutes the blowup, this being caused by variation of humidity and temperature.

To obviate the inconveniences of a rigid support, many producers of hingeable blowups, provide them with thermosticking plastic flexible support.

If in this case if the encumber inconveniences is obviated in reference to the support rigid panel, important inconveniences occurs for the danger of detachment caused by difference in the dilatation between papery support constituting the blowup and support underlying flexible plastic material, furthermore the flexible plastic support, presents the great inconvenience of varying his grade of flexibility with the change of the temperature, more rigid at low temperature and less rigid at highest temperature, further disadvantage being bending lines in unrolling the blowup.

The aim of the present invention is to obviate said inconveniences.

This and other aims have been reached, taking substantially in consideration the utilization of a new type of support or image on papery support, as for example a blowup or drawing on paper, or flexible pasteboard rollable up/unrollable, that has the following technical characteristics:

- To have the same coefficient of dilatation of the image papery support or is able to follow the size variations his dilatations;

Do not change his flexibility with the variation of the temperature;

- To have a strong adhesive effect;
- To have a strong resistance against wrench.

The present invention solves the problem as claimed by means of a Papery image on support of flexible consistence, particularly blowup or drawing, of the type with image coated or coatable by a protective transparent foil in the form of film of plastic flexible material, characterized in that the papery support of the image is thermosticked on a cotton fabric (tissue) having about 1 millimeter of thickness.

With this solution the following advantages are obtained:

- The dilatation of the materials is the same (cellulose) being the basic material always the same, being notorious that both the paper and the cotton is constituted principally by cellulose.
- The support is able to enduring also dilatations sensitively different because the fabric is a textile product that presents a certain grade of elasticity.
- The support maintains in changing the temperature, substantially the same grade of flexibility (does not become rigid with the droop of the temperature) and is easily rollable up and unrollable without bending lines.

Advantageously the fabric is a thick fabric well known with the name "Jeans" that means woof/warp (web) of 1 on 3 with scaling of one in order to obtain a weaving with diagonally braid scale with 12 to 20 oz., preferably 14-14,5 oz. As much advantageously the sticking of said fabric is realized by means of thermosticking with the interposition of biadhesive plastic film at 100-500 preferably 250 Kg/Sqcm. of pressure,150 to 120 °C preferably about 70 °C for 6 to 12 minutes preferably 8 minutes.

Making possible with this an optimum sticking in plastic condition allowing integration of the fabric (tissue) with the papery support without altering the levelness of the surface.

As much advantageously said "Jeans" fabric being of the type of woof/warp = 1/3 with scaling of one for forming a diagonal braid, it easy supports deformations avoiding slippage for diagonal residual tensioning.

Conveniently the fabric is treated dorsally with waterproof/starching material using a watery suspension vinylic glue. With this solution we obtain the advantage to avoid the penetration of humidity into the fabric that can damage the papery support by standing in it.

Conveniently the fabric is further thermo-coated with a perimetrical edge of adhesive plastic film of 10 centimeters large, preferably 4/6 centimeters, applied in similar way:

- Prevent the fraying of the perimetrical edge of the fabric support after trimming;
- Allow sticking of the image (blowup or else drawing so tailored), on panels by means of sticking or use of sticking means or other adhesive hinging means;
- Allow the rolling and unrolling of the product for storing and transporting avoiding bending lines on the image after unrolling.

The invention will be better understood with the description and exemplificating drawings, in which :

Figure 1 represents a magnifying view of a portion in transversal section of a blowup so treated (its normal thickness is about 1 millimeter or little more)

Figure 2 represents a back view of the blowup in which the drawing of braid or weaving is indicative of any braid kind including those claimed also if not corresponding to this drawing.

Making reference to the figures the blowup is constituted by:
- The respective image in paper 1 protected by means of transparent plastic film coating 2, (E.g. thermosticking of adhesive plastic transparent film under heating and pressure as explained for the thermosticking of underlying support of 3).
- The papery support of the image 1 is thermosticked with the same technique by means of a plastic biadhesive film 3 with a fabric 4 having the characteristics described and claimed.
- The fabric support 4 is impregnated as explained and successively coated under heating and pressure, peripherically with a thermoadhesive plastic film 5 the material being the same utilized for the surface plasticization as described and claimed.

The drawing of the fabric shown in figure is simple diagonal criss-cross woof/warp =1 /1 weaving with woof/warp orientated at 45 °. Obviously the optimum and less expensive solution is to use fabric with woof/warp parallel to the edges the weaving being corresponded to "Jeans" fabric (weaving not disclosed in figure but well known on the market having woof/warped or viceversa of 1/3 with scaling of one for forming a braid with diagonal course for maintaining the wires of warped woofs parallels to the respective edges.

Claims

1. A papery image on support of flexible consistence, particularly blowup or drawing (1), of the type with image coated or coatable by a protective transparent foil in the form of film of plastic flexible material (2), characterized in that the papery support of the image (1) is thermosticked on a cotton fabric (tissue) having about 1 millimeter of thickness (4).

2. A papery image as claimed in claim 1, characterized in that said fabric (4) is thick "Jeans" fabric.

3. A papery image as claimed in claim 1, characterized in that said fabric (4) is:
- thick "Jeans" fabric with woof/warp of 1/3 or viceversa with scaling of one in way to obtain a weaving with diagonal braid to scale and with
- disposition of the respective woof/warp wires orthogonal and parallel to the edges.

4. A papery image as claimed in claim 1, characterized in that the fabric (4) is :
- thick "Jeans" fabric with woof/warp of 1/3 or viceversa with scaling of one in way to obtain a weaving with diagonal braid to scale and with
- disposition of the respective woof/warp wires orthogonal and parallel to the edges;
- thickness from 12 to 20 oz., preferably 14 - 14,5 oz..

5. A papery image as claimed in claim 1, characterized in that the fabric (4) is sticked on said paper support (1) by the interposition with thermosetting of a biadhesive plastic foil (3).

6. A papery image as claimed in claim 1, characterized in that the fabric (4) is impregnated with waterproof/starching material.

7. A papery image as claimed in claim 1, characterized in that the fabric (4) is impregnated with waterproof/starching material, said waterproof/starching material being a watery emulsion of vinylic glue.

8. A papery image as claimed in claim 1, characterized in that the fabric (4) is thermocoated with a perimetrical edge of adhesive plastic film (5) having a thickness less then 10 centimeters, preferably 4 - 6 centimeters.

9. Method for the production of papery images as per claim 1, characterized by thermosticking to the back of paper support, a biadhesive film (3) to the conditions of 100-500 preferably 250 Kg/cm. of pressure, 150 to 120 °C preferably approx. 70 °C for a time of 6 to 12 minutes preferably into about 8 minutes.

10. Method for the production of papery images as per claim 1, characterized by the following steps for its preparation:
- Thermostats on its image surface a transparent thermoplastic adhesive film (2);
- dorsally thermosticking to the papery image (1) a respective cotton fabric support (4) with the interposition of thermoplastic biadhesive film (3);
- Perimetral dorsally thermosticking to the support (4) a frame of thermoplastic adhesive film (3), said frame being large up to 10 cm. preferably 4-6 centimeters;
- said thermostickings being carried out under pressure of 100-500 preferably 250 Kg/cm., 150 to

120° C preferably about 70° C, for 6 to 12 minutes preferably about 8 minutes.

11. Method for the production of papery images as per claim 1, characterized by the following steps for its preparation:

- Thermosticking on its image surface a transparent thermoplastic adhesive film (2);
- Dorsally thermosticking to the papery image (1) a respective cotton fabric support (4) with the interposition of thermoplastic biadhesive film (3);
- Perimetrically dorsally thermosticking to the support (4) a frame of thermoplastic adhesive film (3), said frame being large up to 10 cm. preferably 4-6 centimeters ;
- Said thermostickings being carried out under pressure of 100-500 preferably 250 Kg/Sqcm., 150 to 120° C preferably about 70° C, for 6 to 12 minutes preferably about 8 minutes
- Said cotton fabric support (4) being preventively or successively starched/proofed by back-coating with of vinylic glue in watery emulsion.

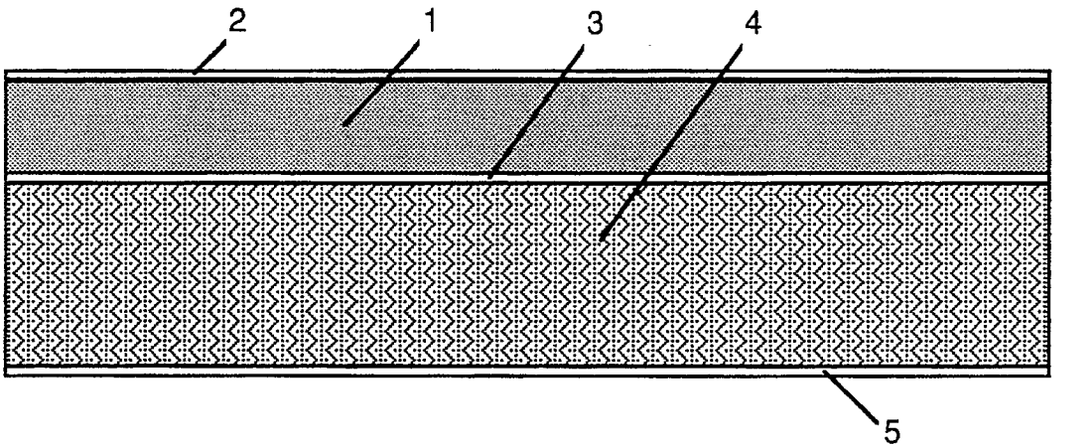


FIG.1

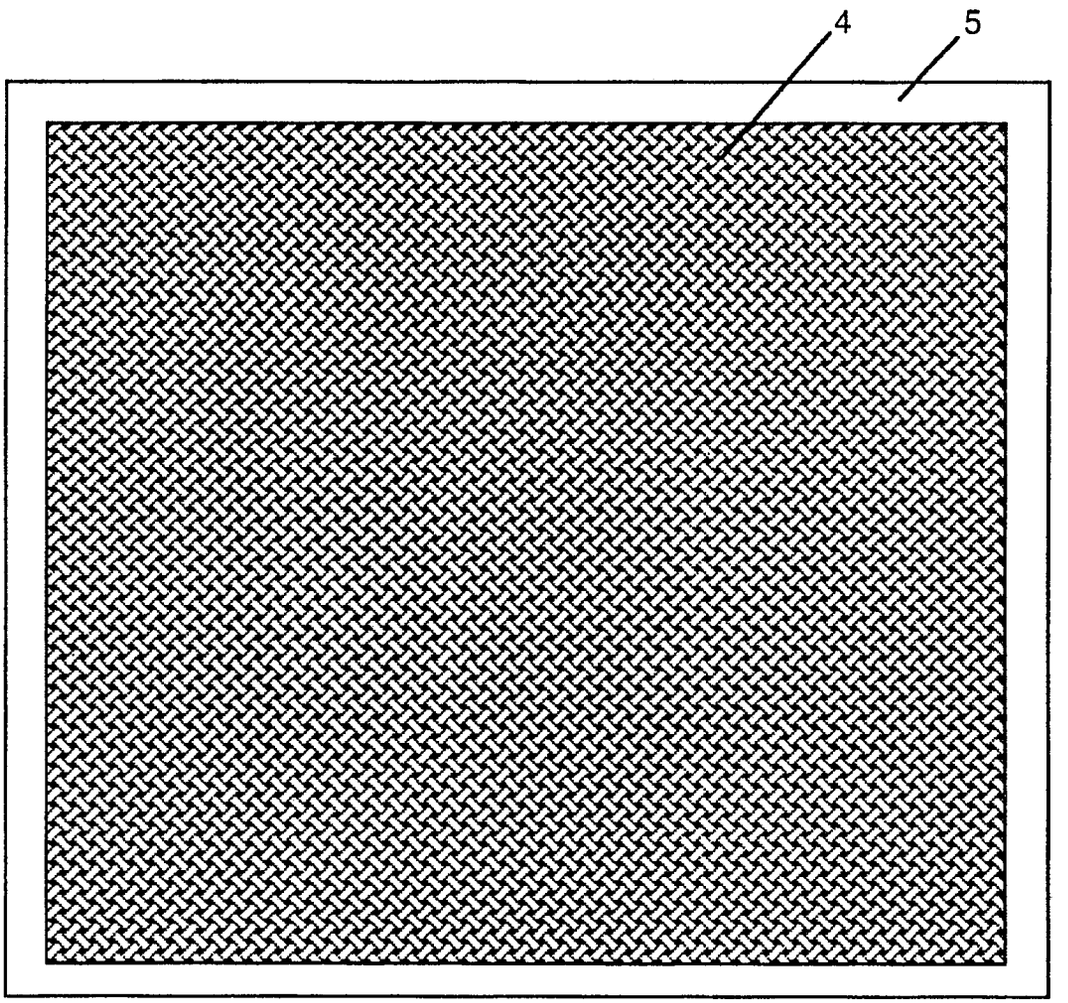


FIG.2

p.FRIULFOTOMONTAGGI di Valvasori Pietro
Dr.G.D'Agostini

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 89 83 0469

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-2 165 026 (J. CATTEAU) * Page 3, line 31 - page 4, line 12; claims 1,8; figures 1,2 *	1,5,10	G 09 F 15/02
A	GB-A- 407 563 (H. MARKS) * Page 1, line 68 - page 2, line 17 *	1,6,7	
A	FR-A-2 088 096 (M. BOIDIN)		

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 the search	Examiner
THE HAGUE	07-06-1990	GALLO G.G.

CATEGORY OF CITED DOCUMENTS

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