



(11) **EP 1 867 781 A1**

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 158(3) EPC

(43) Date of publication:
19.12.2007 Bulletin 2007/51

(51) Int Cl.:
D06Q 1/08 (2006.01) **D06P 7/00** (2006.01)
D06C 23/04 (2006.01)

(21) Application number: **05850521.5**

(86) International application number:
PCT/ES2005/070026

(22) Date of filing: **14.03.2005**

(87) International publication number:
WO 2006/100322 (28.09.2006 Gazette 2006/39)

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR**

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(54) **DECORATION OF EMBOSSED TEXTILES**

(57) The invention relates to the decoration of embossed textiles, which enables the use of macromolecular substances on thick textile pieces comprising synthetic or natural long pile in order to counteract deterioration caused by normal use or successive washing operations, conferring thereon gold and silver aesthetic effects. The textile treatment method consists in first embossing or thermoengraving a corresponding pattern disposed in an embossing mould on a thick textile piece with natural or synthetic pile. Subsequently, the embossing mould in the

embossing machine is replaced with a stamping mould having an identical pattern, which stamps and prints a layer of the selected macromolecular substance, purpurin or polyester particles. The product is then applied uniformly by means of scraping using either a rod or a scraper. Finally, the folds are dried with thermal air in the same machine in order to polymerise and set the stamped product.

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Description

[0001] The invention relates to the decoration of embossed textiles which enables the use of macromolecular substances on thick textile pieces.

[0002] It is therefore, a local decoration process that allows configuring ornaments with multiple patterns, based on the priming of macromolecular substances, mainly metallic powder - mineral powder - and frosts - polyester powder - onto the fabrics to be decorated; this produces an optical effect of highlighting the embossed patterns in a relief.

[0003] The use of embossed ornaments on textiles also known as heat-etched is a well known and usual activity in the fabrics manufacture and sale industry. However, the inclusion of metallic powder on textile products was not possible, resulting in the lack of consistency and adherence for future washes and long lasting usage. This invention achieves a fixing treatment and therefore greater durability to the printed substances.

[0004] Today, chemical compositions are applied directly without embossing to decorate fabrics - mainly powder of various colours and polyester particles; however because these are adhered only with glue or synthetic resins, their resistance and durability is limited under regular use or cleaning and washing of fabrics. In addition, the so-called natural or synthetic pile products (for example blankets and carpets), the inclusion of macromolecular substances to provide ornamental effects has not been developed for industrial and commercial purposes, considering the flexibility and fragility of pile fibres; the ornamental effects are performed either by combinations of various pieces joined together or by printings of different patterns and colours.

[0005] In summary, the described invention provides a technical advantage such as provide stability to the printed substance and permanent shine and luminosity, providing resistance to subsequent washes or against deterioration from normal and regular usage over time. It also produces an aesthetic advantage such as the possibility of producing multiple patterns and colours using fabrics with metallic powder and polyester flakes, specifically, on pile items.

[0006] Finally, it results in novel commercial applications for the home textile market, as it is possible to sell products with purpurin or metallic powder and polyester particles maintaining their stability and resistance on textiles.

[0007] Today, there are several fabric decoration procedures and treatments that are known and used, but they all present different operational and functional purposes, especially for not being applied in the goffer or heat-etching fields or provided stability and durability qualities to the printed substances; therefore the use of already development means involve several limitations compared to this invention, based on its technical and financial advantages. Hence, there are several fabric decoration solutions such as the procedure for printing

on fabrics with a mixture of cellulose and polyester defined in the Spanish Patent number 0477136, or a procedure to obtain fabrics with a pearly finish defined in the Spanish Patent number 0433728, or also the method to obtain fantasy chromatic finishes on fabrics defined in the Spanish Patent 0387798, or the North American invention patent number US1510250, to achieve opalescent and fluorescent effects on fabrics; all of these prior inventions similar to the invention being presented, but generic and inaccurate and as inventions that result average or not specific to embossed fabrics, or not developed with the same or equivalent treatment phases in the textile decoration process.

[0008] These textiles procedures and treatments are different to the invention defined herein, which can be executed and produced as follows:

First, using a thick fabric or of natural or synthetic pile, the pattern is printed onto the embossing mould; the result is a relief on the fabric that shortens the length of the pile and flattens the drawn surface. Next, the embossing mould is replaced on the embossing machine with a pattern mould equal to the drawing, which stamps and prints a layer of the selected macromolecular substance - metallic powder or polyester flakes, mainly - depending on the chosen colour pigments. Next, the product is applied uniformly using a rod-based scraping procedure. And finally, the same machine dries the folds to polymerize and fix the stamped product, providing the final consistency.

[0009] With regards to the chemical components, the macromolecular substance used is combined and based on a bonding and adherent resin, mixed with a colour pigment.

[0010] In summary, with the product resulting from the progressive and gradual treatment results in an aesthetic advantage by printing bright macromolecular substances with golden and silver effects on embossed patterns. This also produces a technical advantage that is a product of greater stability and resistance to usage on fabric and its subsequent cleaning, as the substance applied sets on a flat pattern surface over the entire embossed pattern and not on fibres or long piles, which are flexible materials in terms of grouped filaments.

Claims

1. Decoration of embossed textiles **characterized by** a textile treatment method by embossing or thermo-engraving a corresponding pattern disposed in an embossing mould on a thick textile piece with natural or synthetic pile. Subsequently, the embossing mould in the embossing machine is replaced with a stamping mould having an identical pattern, which stamps and prints a layer of the selected macromo-

lecular substance, purpurin or polyester particles.
The product is then applied uniformly by means of
scraping using either a rod or a scraper. Finally, the
folds are dried with thermal air in the same machine
in order to polymerise and set the stamped product.

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2. - Decoration of embossed textiles according to Claim
1, **characterized** because it provides a macromo-
lecular substance based on purpurin or metal pow-
der particles combined with a bonding and adherent
resin, mixed with a colour pigment.
3. - Decoration of embossed textiles according to Claim
1, **characterized** because it provides a macromo-
lecular substance based on polyester particles com-
bined with a bonding and adherent resin, mixed with
a colour pigment.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2005/070026

A. CLASSIFICATION OF SUBJECT MATTER		
CIP ⁷ D06Q1/08, D06P7/00, D06C23/04		
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)		
CIP ⁷ D06		
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 practicable, search terms used)		
CIBEPAT, EPODOC, WPI		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3850095 A (R.W. SNYDER) 26.11.1974. Column 1, line 54 - column 2, line 9.	1-3
A	US 4238190 A (T.REJTO) 09.12.0980. Column 2, lines 4-62.	1-3
A	EP 0552771 A1 (TPM TEXTILEPRAEGEMASCHINEN GMBH.) (ABSTRACT). [line] retrieved on 27.05.2005]. retrieved from : EPODOC Database.	1-3
☐ Further documents are listed in the continuation of Box C. ☐ See patent family 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 application or patent 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		Date of mailing of the international search report
27 May 2005 (27.05.2005)		29 JUNE 2005 (29,6.2005)
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Form PCT/ISA/210 (second sheet) (April 2005)

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International application No.

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D06Q1/08 (2006.01)
D06P7/00 (2006.01)
D06C23/04 (2006.01)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- ES 0477136 [0007]
- ES 0433728 [0007]
- ES 0387798 [0007]
- US 1510250 A [0007]