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Applicant: **F.I.R.IM.PEX s.r.l.**
Via Maragliano n.29
I-50144 Firenze(IT)

(72)

Inventor: **Lombardi, Gino**
Via A. Ristori, 12
I-50137 Firenze(IT)

(74)

Representative: **Mannucci, Gianfranco, Dott.-Ing.**
Ufficio Tecnico Ing. A. Mannucci Via della Scala 4
I-50123 Firenze(IT)

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Process for decorating leather with fleece and other by means of dyes transferred from a support.

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Process for decorating hides or leather, especially leather with fleece, according to which: the leather front to be decorated is put into contact with a support -mostly a paper support -carrying dyes which are sublimable through heat treatment; the complex or the whole of the leather and the support with dye is subjected to pressure and heating for the sublimation of the dye and its transfer onto the leather.

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"PROCESS FOR DECORATING LEATHER WITH FLEECE AND OTHER, BY MEANS OF DYES TRANSFERRED FROM A SUPPORT"

A first object of the invention is a process for decorating hides or leather, especially leather with fleece, substantially including: to put the leather front to be decorated into contact with a support -mostly a paper support -carrying dyes which are sublimable through heat treatment; to subject the complex or the whole of the leather and the support with dye to pressure and heating for the sublimation of the dye and its transfer onto the leather.

In the process in question, the complex of the leather and the support with sublimable dyes is subjected to relatively limited pressure and to heating for a relatively prolonged time. The dyes being employed are sublimable cationic inks having low molecular weight. The process is carried out with heating at temperatures in the range of 170-180°C and over periods of time in the range of 30-35 seconds.

A further object of the invention is a hide or a leather decorated by dyes transferred thereto by sublimation. In particular, it is an object of the invention to provide a leather with fleece in which the fleece is decorated by dyes transferred thereto by sublimation. It is also possible to decorate, in the same way, the surface of the hide or leather opposite to the fleece side.

Still another object of the invention is to provide an apparatus for the decoration of leather and, especially, of leather with fleece, comprising a press having a mobile plane with heating means, a thermostat and a timer, for carrying out the above process.

The products obtained by the above process and apparatus are, more specifically, tanned fur-hides or fur-leather -especially chrome tanned -and/or tanned and dyed and even subjected to further flattening, shaving, stretching and levelling treatments; which products are printed either on the hide or on the fur side, or on both sides by heat-printing with pattern and dyes transfer from paper or other pre-printed support, through sublimation.

Products derived from the above leather are particularly valuable both for the colours and patterns sharpness and for the touch which is in no way disturbed by dyeing.

Hides or leather to be printed through this process may be hides of any fur-bearing animals, which has been subjected to tanning or tanning and dyeing and to possible further finishing and preparation treatments like napping - (that is "nappatura") or other. The tanning is, advantageously, a chrome tanning or equivalent.

The printing is carried out through a sublimation transfer heat-printing process that consists in the dyes and patterns transfer from a matrix -made up of a paper support or other material on which the desired dyes and patterns have been previously predisposed -to the above described hide or leather. The transfer from the support to the leather takes place through the dye sublimation, that is, owing to the penetration, under gaseous form, of the dye and pattern into the hide fibres, or into the fur, deeply down in the thickness of the fleece mass. The leather and/or fur retain, though dyed, their own characteristics.

The dyes are cationic inks with low molecular weight and being apt to sublime after a heat treatment and to penetrate into and be fixed on the hide and fur fibres.

The transfer is provided by a heat printing transfer press which carries out the coupling in presence of high heat and pressure and for a prolonged period of time. This kind of printing has already been used for some types of fabrics, mostly polyester fabrics, but with criteria and means which are different from those that have been devised for its

use in decorating hides or leather according to the invention. To perform the printing on hides or leather, the hides are previously shaved and stretched on the hair side, then splinted and their grease removed; they are oil-tanned (to make them even at the hide side) and pressed to avoid settlings of the leather under printing which would result in printing defects. The process according to the invention requires temperatures of 170-180°C, relatively lower pressures than those needed for fabrics, and a treatment time of the order of 30-35 seconds, in comparison with the 210-220°C and 25 seconds required for fabrics.

In addition, while in the case of fabrics there are usually used heat-printing machines with continuous working calender cylinder, in the process in question, instead, presses having a mobile plane are used.

The present invention gives rise to significant advantages in respect to other types of printing.

Since the printing is obtained through dye sublimation in the heat-printing process, the leather retains its characteristics as it would be if it were dyed by immersion oxidation, the latter being used, however, only for background colours. Besides, the printing according to the invention -still leaving unchanged the leather characteristics - permits the achievement of a very fine drawin and colour sharpness, as well as a dyeing evenness that cannot be obtained by any other process. These results cannot be reached by the known types of printing. In fact, a pigment printing is currently applied on the hide side, which printing consists in the application -by means of a cliché -of dyes prepared in a self-polymerizing solution, which reticulate while anchoring themselves on the printed surface like a painting; therefore, these paintings completely modify the surface covered by the printing thus leading to a product different from the original one, necessarily less soft and subject to some -even if slight -abrasion due to the normal use of a clothing or furniture article made with hides, or leather, printed as above described. A traditional printing on the fur side is usually performed through a cliché-printing, drying of dyes and fixing by ironing. This process allows to carry out only very rough patterns and poorly uniform colours if compared with the printing on the fur side by heat-printing and sublimation according to the invention that allows the achieving of a pattern fineness and hue graduation particularly refined.

It is understood that what has been here before described is an exemplification given only as a practical demonstration of the invention as the invention may vary in the forms and dispositions, without, nevertheless, departing from the scope of the idea on which the same invention is based.

Claims

1. A process for decorating hides or leather, especially leather with fleece, characterized in that: the leather front to be decorated is put into contact with a support -mostly a paper support -carrying dyes which are sublimable through heat treatment; that the complex or the whole of the leather and the support with dye is subjected to pressure and heating for the sublimation of the dye and its transfer onto the leather, after its flattening, shaving, stretching and other.

2. Process according to the preceding claim, characterized in that the whole of the leather and the support with sublimable dyes is subjected to relatively low pressure, and

to heating over a relatively long period of time.

3. Process according to the preceding claims, characterized in that as colouring matter cationic sublimable inks are used having a low molecular weight.

4. Process according to the preceding claims, characterized in that the heating is carried out at temperatures in the range of 170-180°C and over time periods in the range of 30-35 seconds.

5. Process as described and illustrated for the specified purposes.

6. Hide or leather decorated by dyes transferred through sublimation.

5 7. Leather with fleece, in which the fleece is decorated by dyes transferred through sublimation.

10 8. An apparatus to carry out the decoration of hides or leather, especially leather with fur or fleece, comprising a press having a mobile plane with heating means, a thermostat and a timer for carrying out the process of claims 1 to 5.

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