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(54) **A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine.**

(57) A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine, consisting of adding, in successive stages, a chemical composed of different products added in different ratios in each of said stages in an amount on the order of between 15 and 60 g/square foot, the chemical being configured as a watery or solvent emulsion, and using, for its incorporation in the support, roller, screening, spraying, airless or aerograph machines and like, the support being dried after adding a layer of the chemical, and once the last stage has been finished, the support is totally dried, being subjected to the operation of a high frequency engraving machine in which the support carrying different layers of a chemical comes into contact with a silicone rubber, aluminum mould or like, the result being the obtaining of the pursued product, different operations designed to prepare the product constituting the support, being performed during the fulfilment of the different stages.

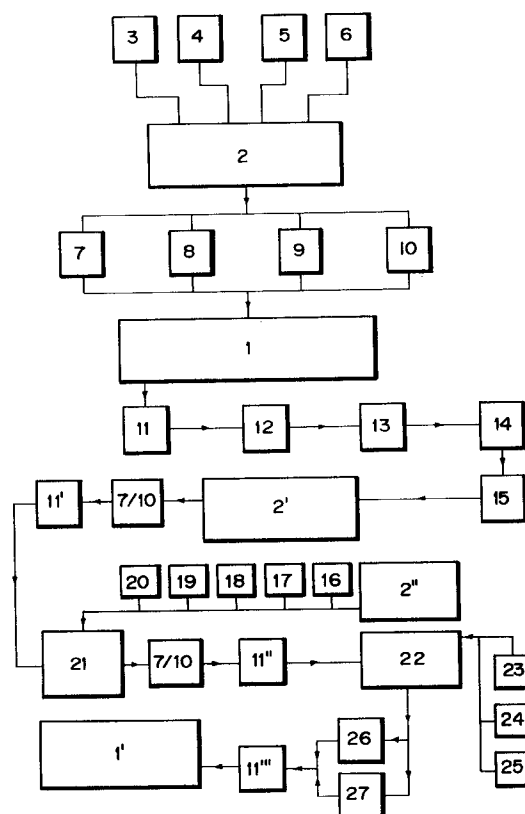


FIG.-1

BACKGROUND OF THE INVENTION

The present specification refers to a patent of invention related to a manufacturing method for finishing hides with full split, grain, corrected grain or any other skin or support, and later engraving them with a high frequency machine, on silicone rubber, aluminum or similar moulds, in order to obtain a product - finished hides- to be utilized in several fields of the industry or trade, such as shoes, handbags, suitcases, workmanship, morocco leather articles in general, upholstery for pieces of furniture, cars, and so on, or where a hide can be used.

FIELD OF THE INVENTION

This invention applies to the industry or trade dedicated to the treatment and finish of hides and later application in the footwear industry, morocco leather articles, upholstery for pieces of furniture or vehicles or any other branch both of trade and industry where a hide can be applied.

RELATED ART

As is known, hides are subjected to several treatments in order to obtaining afterwards an adequate product for configuring different manufactures.

Obviously, the manufacture of high quality products uses hides according to the nature of the pursued object, such as the manufacture of shoes, handbags, suitcases or like, made with skins directly obtained from snakes, crocodiles, etc., raised to this end, these skins, after being obtained, are adequately treated to give them an appropriate consistence and elasticity allowing them to be later treated to carry out the manufacture.

It is known the existence of different products in the marked, that using a low quality skin as a basic material, use a process for sticking a PVC and polyurethan film of a heavy density that, stucked on the skin support permits to eliminate some of the possible skin defects, such as scratches, etc. This low quality skin, once its treatment has been finished, gives a poor, plasticized appearance of low quality, and, above all, it limits very much its use and is destined to very cheaper products.

Nevertheless, said achievement is obtained by means of presses, where the manufacture is performed only with parts of very reduced size (part of unitary cut of which the shoe is composed), so limiting the product to the shoe field, and, specifically, to the economic one, since, according to the Common Market rules, because its thickness it cannot be considered as skin, but only as a synthetic product.

A solution to the present problem on this matter would be to manufacture a split hide, etc., of low quality that, once treated by its corresponding process,

would have a final configuration like that presented by a high quality skin or hide.

Until now, nothing is known about said solution.

SUMMARY OF THE INVENTION

The manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine as proposed by the invention, constitutes per se an obvious solution to the present problem on this matter.

Obviously, it should be pointed out that the hides or skins used for this purpose must be previously treated by means of an adequate tanning and greasing process.

The preparation of chemicals in a watery or solvent emulsion is composed of the following products, namely:

- Polyurethan, butadiene and acrylic resines, all them in a watery or solvent emulsion, the softening temperature of which is on the order of 50 and 300°C.
- Reticulant products, of resines, polyurethan. butadiene and acrylic.
- An expansive or foaming product under a temperature action between 50 and 300°C.
- A penetrating product reducing the surface tension.

That is to say, the compound or preparation of products performed starting from the elements mentioned in previous paragraphs, is settled such as previously mentioned, forming a layer on the split or corrected hide or other support as deemed convenient, using for the settling of this product itself any traditional system of those conventionally used, such as a roller, screening, spraying, airless or aerograph machine, etc., etc.

The wet product on the split or on the corrected hide or skin or other support is subjected to a drying stage by means of the traditional system of a furnace.

Subsequently, the split, the corrected grain or other support already subjected to the incorporation of the chemicals composing the preparation in a watery or solvent emulsion and then subjected to a drying stage in a furnace, is incorporated in a continuous pressing machine having a roller heated at a temperature on the possible order of 50 to 300°C, the temperature variation being determined according to the quality of the material used and its definite physical conditions.

Then, the product subjected to the operation of the press with a hot roller is polished in a traditional polishing machine, and it is later dusted.

If the characteristics of the treated element show that it must be softened, it is subjected to a softening machine process.

Once the above mentioned stage has been fulfilled

led, on the obtained product a layer of chemicals in a watery or solvent of about 15 thru 60 g/square foot, formed by the same components as above, although using different ratios, is deposited.

To carry out the settling of the watery or solvent solution, any of the traditional systems used to this end, like in the previous stage, will be used.

Later, the treated product is subjected to a drying stage in a traditional furnace.

Then, on the obtained product, a new layer of chemicals in a watery or solvent solution of about 15 thru 60 g/square foot, formed by the same components as used in the two above mentioned stages, is settled, varying again their ratios and adding, at the same time, the following products, namely:

- Pigments in a watery or solvent dispersion.
- Waxes in a watery or solvent emulsion.
- Fillings in a watery or solvent dispersion.
- Watery or solvent levelers or extenders.
- Watery or solvent thickeners.

In order to settle this layer, any of the different elements or systems of conventional application mentioned above and like in previous stages, is to be used, and as in previous stages, the product with the added layer is subjected to a drying stage in a furnace.

Again, the incorporation on the obtained product of a layer of 15 to 60 g/square foot of a watery or solvent solution is effected, using, on this occasion, a polyurethan resin at a softening temperature of 50 thru 300°C, this temperature fluctuating, of course, according to the characteristics of the used product as a basis for the product to be configured and to the application of same.

Like in the previous cases, the application system of the watery or solvent solution of a polyurethan resin will be similar to those already mentioned.

Anew, the product is subjected to a drying stage in a furnace.

Again, the product taken out from the furnace, and already dry, will receive an assay layer, watery or solvent, coloured or not, according to the characteristics of the pursued manufacture, using an aerograph or a roller machine for incorporating the layer, and using, in case of utilizing a roller machine, a roller so-called a "thousand point roller", the preparation of the assay layer containing, either watery or solvent, the following products, namely:

- Nitrocellulose lacquer.
- Instead of nitrocellulose lacquer, a polyurethan lacquer will be used.
- Instead of a nitrocellulose lacquer or a polyurethan lacquer, cellulose acetobutirate will be used.

Afterwards, the product is subjected to a full drying process.

In this state, the split or corrected grain or other support pass to a high frequency engraving machine

wherein the layer of chemicals settled on them will take both the shape and relief desired.

In said high frequency engraving machine, the chemical settled and dry will come into contact directly with a mould preferably made of silicone rubber, aluminum or any other material having the necessary characteristics for engraving at high frequency, this mould being previously manufactured according to the manufacturer's desires.

BRIEF DESCRIPTION OF THE DRAWINGS

In order to complement this description and to aid to a better understanding of the features of the invention, the accompanying drawings, which are a part of this specification, show in an illustrative but non limitative sense, the following:

Figure 1 shows a block diagram illustrating the different elements and products configuring the stages of the method going from the addition, at the first stage, of a chemical to the obtaining of the final product which, later, will be subjected to treatment on a high frequency engraving machine.

Figure 2 shows, lastly, a single block diagram in which the stages to be surpassed by the product or split, grain, corrected grain or other support so obtained, are shown, passing through the high frequency engraving machine until obtaining the final product.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

From Figure 1, it can be seen the manner in which the manufacturing method for finishing hides with full split, grain, corrected grain, or any other type of skin or support, and later engraving on them with a high frequency machine, is configured starting from a full split, grain, or on the corrected grain or other support (1), which have been previously treated with an adequate retanning and greasing process, and deposited on the order of 15 to 60 g/square foot of a preparation (2) of chemicals in a watery or solvent emulsion composed of polyurethan, butadiene and acrylic resins (3), all them in a watery or solvent emulsion, the softening temperature of which fluctuates in an interval of temperature between 50°C and 300°C, according to the support characteristics.

Apart from the components (3), the chemical (2) is constituted by a series of reticulant products (4) of polyurethan, butadiene and acrylic resins, at a softening temperature fluctuating between 50°C and 300°C, and also by an expansive or foaming product (5) by the action of a temperature which can fluctuate between 50°C and 100°C, according to the product nature.

Lastly, in the chemical added to the support, the existence of a penetrating product (6), the function of

which is to diminish the surface tension, is contemplated.

This layer of products (2) formed by the components (3), (4), (5) and (6), can be placed of the split, grain, corrected grain or other support (1) by means of any of the known traditional systems such as roller machines (7), screening machine (8), airless gun or aerograph (10), and there is no objection in using any other method, machine or apparatus managing to add the chemical layer to the support.

Once the chemical layer (2) has been added, this layer is configured as a wet product, since, as mentioned above, the chemical is a preparation in a watery or solvent emulsion, proceeding then to a drying stage (11) in a furnace.

The corrected hide, split or other support, thereafter named always as support, is subjected to the action of a continuous pressing machine (12) having a hot roller at a temperature fluctuating between 50° and 300°C.

Once the pressing stage has been surpassed (12), the support is subjected to a polishing stage (13), by means of a traditional polishing machine, proceeding then to a dusting stage (14)

In the method of the invention, it is contemplated a softening stage (15), if the article requires it, using for this operation a softening machine.

Again, on the support treated in the different stages described above, a layer of chemicals in a watery or solvent solution is deposited, in an amount on the order of between 15 to 60 g/square foot, this chemical layer being formed by the same components previously contemplated and represented in the block diagram by the blocks (3), (4), (5) and (6), and its operating point is referenced in the diagram with the numeral (2'), and for depositing said chemical layer any of the systems, machines or apparatuses referenced as (7/10) are utilized.

Next, the product with the added layer is dried again in the furnace of stage (11').

The support to which two layers of chemicals have been added, as mentioned above, and which has been dried twice after the - treatment, is added with a third layer of chemicals in a watery solution and in an amount of the order of between 15 to 60 g/square foot, formed by components (3), (4), (5) and (6), varying, as in the second addition stage, their ratios, and adding in this stage to the chemical (2'), pigments in a watery or solvent dispersion (19) and watery or solvent thickeners (20).

The addition of this new layer of chemical (2''), formed by products (16), (17), (18), (19) and (20), added to the components (3), (4), (5) and (6), ensures a chemical (21), which is incorporated on the support by means of the action of any element, machine or method reflected in (7/10), the support, with the addition of the chemical (21), being later subjected to a new drying stage (11'').

Again, a layer of 15 to 60 g/square foot of a watery or solvent solution, but in this case composed of a polyurethan resin at a softening temperature of 50° to 300°, is incorporated, by using any application system such as those mentioned above, and, next, the support is again dried.

The following stage contemplates to add to the support an assay layer, either watery or solvent, coloured or not (22), by - using an aerograph (26), or a roller machine, the roller known as a "thousand point roller" being used. In this stage, the used assay layer, watery or enveloping, coloured or not, is composed of nitrocellulose lacquer (23), polyurethan lacquer (24) instead of the nitrocellulose lacquer, or cellulose acetobutirate (25) instead of the nitrocellulose lacquer or polyurethan lacquer.

Immediately after this process, a full drying (11''') in a furnace or oven is performed.

As a result, this method provides a split, corrected grain or other support (1').

Following the Fig. 2, it can be seen that the split, corrected grain or other support (1'), which has been subjected to several treatment stages with different products and acting sequences, passes, fully dry, to a high frequency engraving machine (28), on which the layer of chemicals deposited on them will take both the shape and relief desired.

On the machine (28), the dried and deposited chemical will remain into contact with a silicone rubber mould (29), which can be perfectly substituted by an aluminum mould, or a mould of any other material having characteristics enough for engraving, at a high frequency, moulds to be previously manufactured according to the manufacturer's needs and the requirement of the product to be obtained, and once ended the mould stage (29), the final product (30) is obtained.

This product can be used for meeting the manufacturing needs of several and different objects, without modifying or changing the pursued characteristics during the manufacturing stage, excepting the occurrence of a fortuitous accident.

It is not considered necessary to extend more this description for an expert in the art to understand the scope of the invention and the advantages derived from it.

The materials, shape, size and arrangement of the components are open to variation, provided that it does not imply any alteration to the essence of the invention.

The terms under which this specification has been described should be always taken in an wide and non limiting sense.

Claims

1.- A manufacturing method for finishing hides

with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine, of those destined to configure, after the achievement of the method, a support having own characteristics, totally different from the support - used for its transformation, showing a pre-determined aspect, after carrying out a treatment of the grain, full split, or on the corrected grain or other support in an adequate retanning and greasing process, characterized in that on the "grain" side of the full split, or on the corrected grain or other support, different stages of 15 to 60 g/square foot of a preparation of chemicals in a watery or solvent emulsion are deposited, the support being later dried in an oven after being added with the chemical layer, which, in subsequent stages, is added with some different chemicals in succession, a roller machine, screening machine, airless gun, aerograph, etc., being used for depositing or adding the chemicals, the support being also subjected to the action of a pressing machine having a hot roller at a temperature of 50° to 300°C, with polishing if necessary, and using an aerograph or roller machine for adding several chemicals, the support being at last fully dried, and being incorporated into a high frequency engraving machine, using a silicone rubber, aluminum or any other material mould, the result being the pursued product.

2.- A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine, according to claim 1, characterized in that in a first stage on the "grain" side of the full split or on the corrected grain, an amount of chemicals in an watery emulsion fluctuating between 15 to 60 g/square foot, composed of polyurethan, butadiene and acrylic resins is deposited, all them in a watery or enveloping, the softening temperature of which fluctuates in an interval of temperature between 50° and 300°C, as well as reticulant products of polyurethan, butadiene and acrylic resins.

3.- A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving then with a high frequency machine, according to claim 2, characterized in that the chemical in a watery or solvent emulsion used in the first stage contains an expasive or foaming product by the action of a temperature between 50° and 300°C, as well as a penetrating product which reduces the surface tension, the layer being deposited on the support by means of a roller machine, screening machine, airless gun, aerograph or like, being later subjected to a drying process in an oven, and passing later to a continuous pressing machine with a hot roller at a temperature of 50° to 300°C.

4.- A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a

high frequency machine, according to claim 2 and 3, characterized in that after effecting the support treatment with the hot roller at a temperature of 50° to 300°C, the support is polished by means of a conventional polisher, being latter dusted, the support being softened on a conventional softening machine.

5.- A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine, according to claim 1, characterized in that after the dusting stage, and optional softening stage, a layer of chemicals in a watery or solvent solution, of about 15° to 60° g/square foot, is deposited, this layer being formed by identical components to those used in the first stage for configuring the chemical, these componets being added in different ratios, using, like in the previous stage, any of the mentioned devices, methods or aparatuses, and once deposited, the layer is dried in an oven or furnace.

6.- A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine, according to claim 1, characterized in that once the drying corresponding to the second stage has been effected, a new layer of chemicals in a watery solution of about 15 to 60 g/square foot, formed by the same components used for configuring the chemical used in the - first and second stage of the method, is deposited on the support, varying their ratios, the chemical being added with pigments in a watery or solvent dispersion, waxes in a watery or solvent emulsion, fillings in a watery or solvent dispersion, watery or solvents levelers or extenders, and watery or solvent thickeners, being used, for depositing this layer of chemicals, any of the apparatuses, methods or devices used in the previous stages, the layer being then dried in an oven.

7.- A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine, according to claim 1, characterized in that once the previous stage has been ended, and the support has been dried, a new layer of a watery or solvent solution in an amount fluctuating between 15 to 60 g/square foot of polyurethan resin, at a softening temperature of 50° to 300°C is deposited on the support, using, like in previous stages, for adding the layer of polyurethan resin, any of the apparatuses, devices or methods used in the previous stages, being then dried in an oven.

8.- A manufacturing method for finishing hides with full split, grain, corrected grain or any other type of skin or support, and later engraving them with a high frequency machine, according to claim 1, characterized in that, once the previous stage has been ended, and the support has been dried, an assay layer, watery or solvent, is deposited on the support, this

layer being coloured or not, using an aerograph or a roller machine on which a roller known as a "thousand point roller" will be used, nitrocellulose lacquer, or instead of it polyurethan lacquer, or instead of them cellulose acetatobutirate being added to the assay layer, then being subjected said support to a full drying.

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9.- A manufacturing method for finishing hides with full split, grain, correcter grain or any other type of skin or support, and later engraving them with a high frequency machine, according to claim 1, characterized in that the support, constituted by the split, the corrected grain or other similar support pass, fully dry, to a high frequency engraving machine to be treated, on which the layer of chemicals deposited in the different stages mentioned above, will take both the shape and relief desired by using a silicone rubber mould which comes into contact with the deposited chemicals constituting the Several layers; said mould can be substituted by an aluminum or any other material mould having the appropriate characteristics for engraving at high frequency, the result being the obtaining of the final product.

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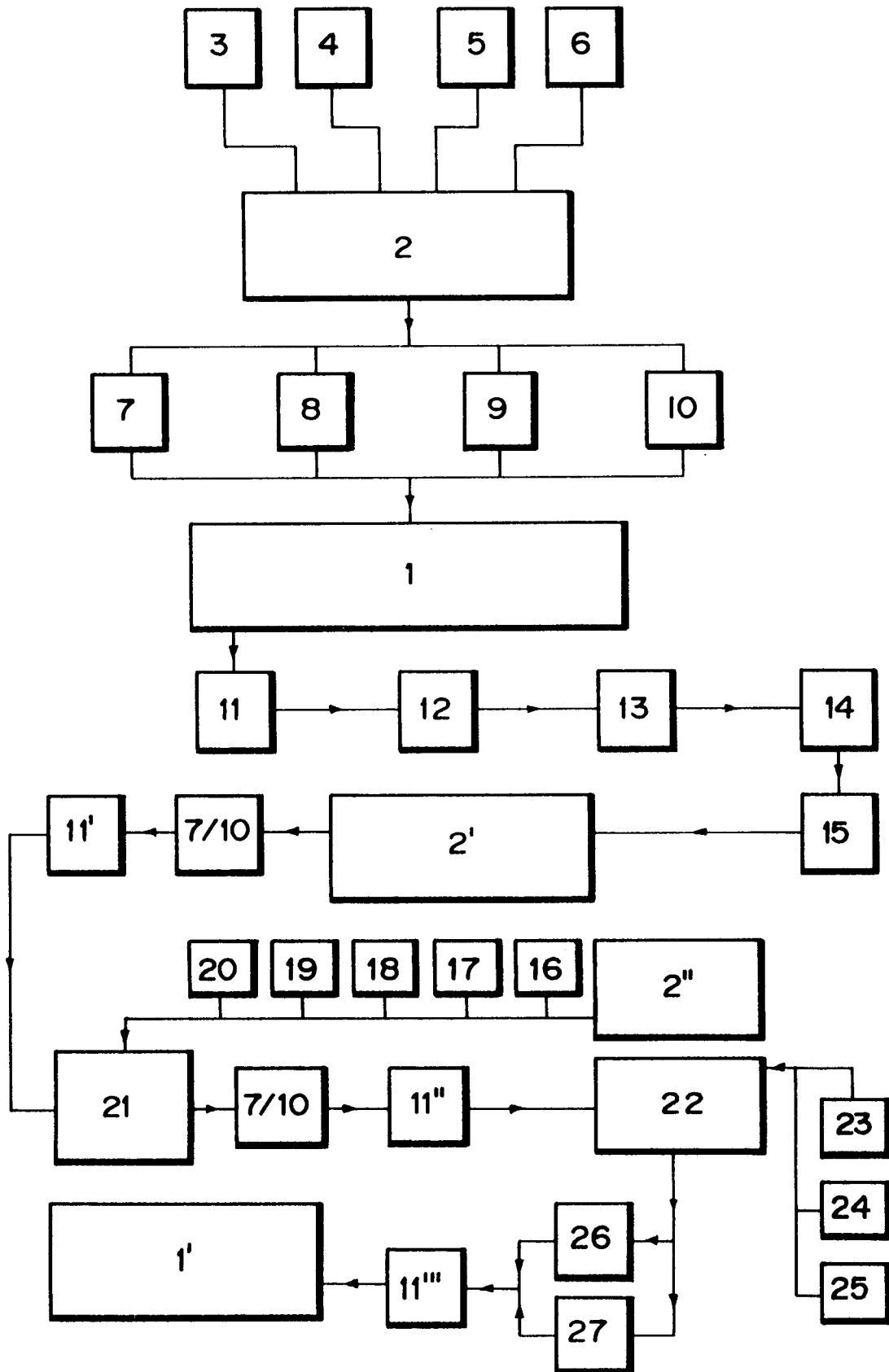


FIG.-1

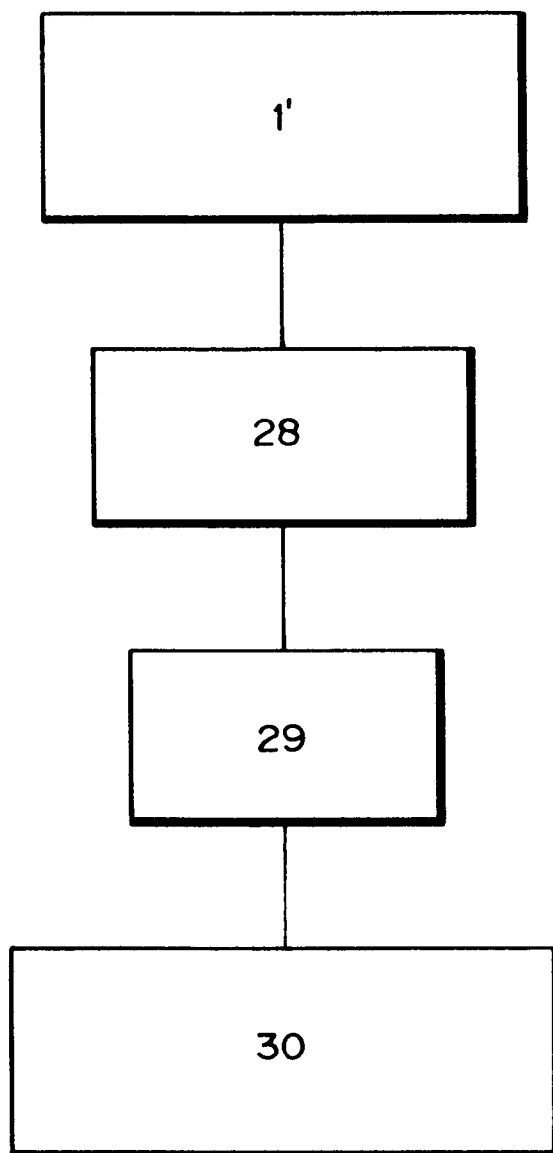


FIG.-2



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 50 0191

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)
Y	HEIDEMANN E. 'Fundamental of Leather Manufacturing'	1	C14C11/00
A	1993, ROETHER VERLAG, DARMSTADT, DE page 574	2-6,8	C14B1/56
Y	FR-A-2 383 794 (COMPO INDUSTRIES)	1	
A	* page 2, line 13 - line 30 *	9	
P,X	DATABASE WPI Week 9425, Derwent Publications Ltd., London, GB; AN 94-202401 & ES-A-2 051 243 (GUILABERT GARCIA A) 1 June 1994 * abstract *	1,9	
A	FR-A-2 151 746 (CENTRE TECHNIQUE DU CUIR) * claims 1,2,4,8,10 *	1-6	
A	FR-A-2 325 719 (KEPEC CHEMISCHE FABRIK) * page 2, line 5 - line 22 * * page 5, last paragraph *	8	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	DE-A-21 44 371 (J. H. BENECKE BETEILUNGS)	1	C14C C14B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14 March 1995	Examiner Girard, Y
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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