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(54) **Wood colouring**

(57) Wood colouring method for darkening wood comprising the sequential steps providing a wood blank; wetting the wood blank by means of a fluid; and subjecting the wetted wood blank to ammonia, whereby colour-

ing of the wood blank to a darker colour is obtained. A coloured veneer, wear layer for a laminated parquet floorboard, solid floorboard or solid piece of wood produced according to the method.

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Description

TECHNICAL FIELD

[0001] The present invention relates to a method for colouring wood into a darker colour.

BACKGROUND ART

[0002] It is sometimes desirable to change the colour of a piece of wood e.g. to change the aesthetic appearance of a wooden floor. It may be advantageous to be able to use brighter and cheaper sorts of wood for production of dark wood. Natural dark wood may have a high price and may not be available locally, but may have to be imported from distant countries.

[0003] It is known that oak may be given a darker colour by subjecting a piece of oak to gaseous ammonia of high concentration during some weeks. It is also possible to obtain colouring of the surface of a piece of oak by applying ammonia solution on the surface of the oak. However, by applying ammonia solution on the surface only a surface layer of the oak is thereby coloured, typically only a surface layer having a thickness of fractions of a millimetre, such as about 0.2-0.3 millimetres, is coloured. Since only a thin surface layer is coloured the colour may be worn off and when the oak is used as a floor it is not possible to refurbish the floor by machining with a grinding machine and maintain the dark colour of the floor. Ammonia with high concentrations is hazardous and is harmful both to the persons handling the ammonia and the environment. Therefore the handling of highly concentrated ammonia is complicated and commonly restricted or prohibited. The above processes are also very slow giving rise to long productions times and increased production costs.

[0004] Also other ways of colouring oak has been suggested. For example, DE 10 2011 001110 A1 discloses a method of colouring wood throughout by a) pretreating the wood by ammonia, a thermal pretreatment, a steaming and/or a chemical or biological wood degradation process, b) impregnation of the wood with a solvent or carrier containing a colour reagent and c) inserting functionalising substances in the wood. This is a complicated process containing multiple steps and a colouring reagent is required to obtain colouring of the wood.

[0005] Thus, there is a need for an improved method for colouring wood.

SUMMARY OF THE INVENTION

[0006] One object of the present invention is to overcome at least some of the problems and drawbacks mentioned above. One further object of the present invention is to obtain colouring to a darker colour throughout a piece of wood or at least colouring deep into a piece of wood from the surface of the piece of wood. One further object of the present invention is to obtain an efficient and time

saving colouring of wood to a darker colour. One further object of the present invention is to provide an environment friendly and/or working environment friendly method for colouring of wood to a darker colour.

[0007] These and further objects are achieved by a wood colouring method for darkening wood comprising the sequential steps providing a wood blank; wetting the wood blank by means of a fluid; and subjecting the wetted wood blank to ammonia, whereby colouring of the wood blank into a darker colour is obtained.

[0008] The wood colouring method of the present invention achieves colouring to a darker colour throughout a piece of wood or at least colouring deep into a piece of wood from the surface of the piece of wood, depending on the thickness of the piece of wood. The wood colouring method of the present invention is efficient and is carried out during a relatively short period of time, which e.g. reduces costs. The wood colouring method of the present invention is environment friendly and enables a healthy working environment.

[0009] One object of the present invention is to obtain wooden articles coloured to a darker colour throughout or at least deep into the wood from the surface. This as well as further objects are achieved by a coloured veneer, wear layer for a laminated parquet floorboard, solid floorboard or solid piece of wood produced according to the above method.

[0010] Further objects and features of the present invention will appear from the following detailed description of embodiments of the invention.

DETAILED DESCRIPTION

[0011] As described above, the present invention relates to a wood colouring method for colouring wood to a darker colour comprising the sequential steps providing a wood blank; wetting the wood blank by means of a fluid; and subjecting the wetted wood blank to ammonia, whereby colouring of the wood blank is obtained. The colouring of the wood blank is to a darker colour. The colouring of the wood blank is a darkening of the wood blank. By wetting the wood blank before subjecting it to ammonia it has been found that colouring of the wood to a darker colour is obtained deep into the wood from the surface of the wood blank. Thereby, the dark colour of the wood is maintained when the wood blank is subjected to wear and damages, e.g. when used as a wear layer of a floor. Also refurbishing by grinding is possible, which is important e.g. when the wood blank is used as a wear layer of a floor. The wetting of the wood blank before subjecting it to ammonia also accelerates the colouring of the wood. Thereby the required time for colouring of wood to a darker colour is reduced. It is believed that the humidity achieved in the wood by the wetting facilitates the transport of the ammonia into the wood. As stated above, the step wetting the wood blank is performed before the step subjecting the wetted wood blank to ammonia. The colouring of the wood blank is to a darker colour

than the colour of the wood blank before the subjection to ammonia. The wood blank has a first colour before subjected to ammonia and a second colour after subjected to ammonia, wherein the second colour is darker than the first colour. Thus, the wood blank is coloured from a first colour to a second colour, which second colour is darker than the first colour. The wood blank may be coloured from a bright colour to a dark colour.

[0012] In one aspect, colouring of the wood blank is obtained into at least 1 mm from the surface of the wood blank. Thus, colouring of the wood a substantial depth into the wood is achieved. Refurbishing of the surface of the wood by grinding is thereby possible. The colour of the wood is also maintained when subjected to wear and damages, e.g. in the form of indentations and knocked-off pieces. In one aspect, colouring of the wood blank is obtained into at least 2 mm from the surface of the wood blank. Colouring of the wood deeper into the wood from the surface of the wood implies that refurbishing is possible a multiple number of times. The deeper the colouring is obtained into the wood, the more number of refurbishes by grinding are possible. Also, the deeper the colouring is obtained into the wood, the deeper indentations and knocked-off pieces are allowed while maintaining the colour of the wood. In one aspect, colouring is obtained throughout the wood blank. In one aspect, colouring of the wood blank is obtained at least 1 mm to about 3 mm into the wood blank from the surface of the wood blank, such as at least 2 mm to about 3 mm from the surface of the wood blank. In one aspect, colouring of the wood blank is obtained throughout the wood blank. Thereby, full refurbishing of the wood blank by grinding away almost the entire wood blank is possible. In addition, the colour is maintained even when indentations and marks after knocked-off pieces extend almost throughout the entire wood blank. In one aspect, colouring of the wood blank is obtained into about 3 mm from the surface of the wood blank. In one aspect, where the wood blank is made of beech, colouring of the wood blank is obtained into at least 3 mm from the surface of the wood blank, such as at least 4 mm from the surface of the wood blank, such as at least 5 mm from the surface of the wood blank, such as at least 8 mm from the surface of the wood blank, such as at least 10 mm from the surface of the wood blank. In one aspect, where the wood blank is made of beech, colouring of the wood blank is obtained into about 15 mm from the surface of the wood blank.

[0013] In one aspect, the wetted wood blank is subjected to ammonia until colouring is obtained into at least 1 mm from the surface of the wood blank, such as at least 2 mm from the surface of the wood blank. In one aspect, the wetted wood blank is subjected to ammonia until colouring is obtained into about 3 mm from the surface of the wood blank. In one aspect, the wetted wood blank is subjected to ammonia until colouring is obtained at least 1 mm to about 3 mm into the wood blank from the surface of the wood blank, such as at least 2 mm to about 3 mm

from the surface of the wood blank. In one aspect, the wetted wood blank is subjected to ammonia until colouring is obtained throughout the wood blank. In one aspect, where the wood blank is made of beech, the wetted wood blank is subjected to ammonia until colouring is obtained into at least 3 mm from the surface of the wood blank, such as at least 4 mm from the surface of the wood blank, such as at least 5 mm from the surface of the wood blank, such as at least 8 mm from the surface of the wood blank, such as at least 10 mm from the surface of the wood blank. In one aspect, where the wood blank is made of beech, the wetted wood blank is subjected to ammonia until colouring is obtained throughout the wood blank.

[0014] In one aspect, the wood blank is wetted with water. Water is a suitable fluid for wetting the wood blank. Water is inexpensive and easily accessible. Water does not involve any environmental risks and does not negatively affect the working environment.

[0015] In one aspect, water is added to the wood blank by means of the wetting. Thereby, the wood blank is humidified by addition of water to the wood.

[0016] In one aspect, the wood blank is wetted by immersion of the wood blank in a liquid bath of the fluid. Immersion in a liquid bath of the fluid allows the fluid to penetrate into the wood. Immersion in a liquid bath is an easy and inexpensive method of wetting the wood blank. Immersion in a liquid bath does not require any expensive equipment, since only a liquid tight open vessel is needed. Immersion in a liquid bath implies that the fluid surrounds the wood blank and thereby the fluid penetrates into the wood from all surfaces of the wood blank, which in particular is a large advantage when colouring a wood blank throughout, since the fluid penetrates the wood blank from all surfaces to the centre of the wood blank.

[0017] In one aspect, the liquid bath is an aqueous bath. Thereby, the liquid bath contains water and the wood blank is wetted by water. Water is a suitable fluid for wetting the wood blank. Water is inexpensive and easily accessible. Water does not involve any environmental risks and does not negatively affect the working environment.

[0018] In one aspect, the wood blank is a veneer, a wear layer for a laminated parquet floorboard, a solid floorboard or a solid piece of wood. A veneer, a wear layer for a laminated parquet floorboard, a solid floorboard and a solid piece of wood coloured through the wood colouring method maintains its colour when subjected to wear and damages. Also refurbishing by grinding is possible, since a veneer, a wear layer for a laminated parquet floorboard, a solid floorboard and a solid piece of wood is coloured deep into the wood. The solid piece of wood may be a board to be processed to a solid floorboard or to any other wood product, such as a board for a furniture or a moulding. In one aspect, the wood blank is a veneer, a wear layer for a laminated parquet floorboard, a board to be processed to a solid floorboard or a solid floorboard. In one aspect, the wood blank is a veneer, a wear layer for a laminated parquet floorboard

or a solid floorboard. In one aspect, the wood blank is a wear layer for a laminated parquet floorboard, a board to be processed to a solid floorboard or a solid floorboard. In one aspect, the wood blank is a wear layer for a laminated parquet floorboard or a solid floorboard. The possibility to refurbish by grinding, preferably multiple times, is in particular an advantage for floors. Floors are usually also subjected to extensive wear. In one aspect, the wood blank is a veneer or a wear layer for a laminated parquet floorboard. A veneer or a wear layer for a laminated parquet floorboard will typically be coloured throughout. In one aspect, the wood blank is a wear layer for a laminated parquet floorboard.

[0019] In one aspect, the wood blank has a thickness of 30 mm or less. In one aspect, the wood blank has a thickness of 20 mm or less. In one aspect, the wood blank has a thickness of 10 mm or less. In one aspect, the wood blank has a thickness of 8 mm or less. In one aspect, the wood blank has a thickness of 6 mm or less. A wood blank having a thickness of 6 mm or less will typically be coloured throughout. A wood blank having a thickness of 6 mm or less is suitable as a wear layer for a laminated parquet floorboard. In one aspect, the wood blank has a thickness of 5 mm or less.

[0020] In one aspect, the wood colouring method further comprises the step of drying the coloured wood blank, which drying step is performed after the step of subjecting the wetted wood blank to ammonia. The wood blank is dried after the colouring of the wood blank by ammonia, since the wood blank should be humid when subjected to the ammonia. The wood blank is preferably dried after colouring by ammonia in order to prepare the wood blank for machining and processing the wood blank to a wooden product, such as a wear layer of a laminated parquet floorboard. The drying is important since the wood blank is wetted during the colouring method. In conventional handling of wood, the wood is dried at an early stage and then kept from becoming humid.

[0021] In one aspect, the wood blank is provided by sawing wood into a wood blank. Thereby, the wood is sawed into a suitable wood blank before wetting of the wood blank. In conventional handling of wood, the wood is dried before sawing into a processable body and then kept from becoming humid. In one aspect, the wood blank is a ready-sawed piece of wood. Thereby, the wood blank is a wood blank that is prepared for further use, such as a wear layer for a laminated parquet floorboard, before colouring of the wood blank. The wood blank is also prepared for further use before wetting of the wood blank. In one aspect, the wood blank is provided by a step of producing the wood blank by means of sawing wood, which producing step is performed before wetting of the wood blank.

[0022] In one aspect, the wood blank is a wood blank made of oak, ash or beech. Oak, ash and beech are suitable kinds of wood for colouring from a relatively bright to a darker colour. These kinds of wood are also relatively inexpensive, at least in relation to darker kinds

of wood. In one aspect, the wood blank is a wood blank made of oak. In one aspect, the wood blank is a wood blank made of beech. Beech has shown to be easily coloured throughout, even for relatively thick wood blanks, such as wood blanks having a thickness of 30 mm.

[0023] In one aspect, the ammonia (NH_3) is provided from an ammonium hydroxide solution having a concentration of NH_3 of 24 % by weight or lower based on the total content of NH_3 and water. By providing ammonia from an ammonium hydroxide solution having a concentration of NH_3 of 24 % by weight or lower, the handling of the ammonia is convenient. An ammonium hydroxide solution having a concentration of 24 % by weight or lower is considered low hazardous. Use of an ammonium hydroxide solution having a concentration of NH_3 of 24 % by weight or lower is considered environment friendly and gives rise to a healthy working environment.

[0024] In one aspect, the wetted wood blank is subjected to gaseous ammonia. Gaseous ammonia is easily brought in contact with the wood blank, e.g. by having the wood blank in a closed space and supplying the gaseous ammonia to the closed space. In one aspect, the gaseous ammonia is provided by evaporation of ammonia from an ammonium hydroxide solution. Evaporating ammonia from an ammonium hydroxide solution is a convenient way of providing ammonia. The ammonium hydroxide solution may easily be handled and may be stored in various receptacles, such as a can.

[0025] In one aspect, the gaseous ammonia (NH_3) is provided by evaporation of ammonia from an ammonium hydroxide solution having a concentration of NH_3 of 24 % by weight or lower based on the total content of NH_3 and water. Evaporating ammonia from an ammonium hydroxide solution is a convenient way of providing ammonia. The ammonium hydroxide solution may easily be handled and may be stored in various receptacles, such as a can. An ammonium hydroxide solution having a concentration of 24 % by weight or lower is considered low hazardous. Use of an ammonium hydroxide solution having a concentration of NH_3 of 24 % by weight or lower is considered environment friendly and gives rise to a healthy working environment.

[0026] In one aspect, the wood blank is a wood blank containing tannin. One example of wood containing tannin is oak.

[0027] In one aspect, the wood blank is subjected to ammonia at atmospheric pressure. In one aspect, the wood blank is wetted at atmospheric pressure. Atmospheric pressure is conveniently achieved without any pressure equipment. In one aspect, the wood blank is subjected to ammonia at an overpressure or an underpressure. In one aspect, the wood blank is wetted at an overpressure or an underpressure. Overpressure or underpressure increases the effect of the ammonia, i.e. the colouring, e.g. such that the colour of the coloured wood is darker or such that the wood blank is coloured a longer distance in from the surface of the wood blank.

[0028] In one aspect, the wood blank is subjected to

ammonia at room temperature, such as 18-25°C, such as 20-24°C. Room temperature is conveniently achieved and obtained at a low cost. In one aspect, the wood blank is subjected to ammonia at a temperature above room temperature. In one aspect, the wood blank is subjected to ammonia at a temperature in the range of 27-75°C, such as 30-70°C. An increased temperature increases the effect of the ammonia and reduces the processing time.

[0029] In one aspect, the wood colouring method comprises the step of applying a surfactant on the surface of the wood blank, which step of applying a surfactant is performed before the step of subjecting the wood blank to ammonia. The step of applying a surfactant is preferably performed after the step of wetting the wood blank. A surfactant decreases the surface tension and increases the effect of the ammonia.

[0030] As described above, the present invention also relates to a coloured veneer, a coloured wear layer for a laminated parquet floorboard, a coloured solid floorboard or a coloured solid piece of wood produced according to the above method. Thereby, the coloured veneer, the coloured wear layer for a laminated parquet floorboard, the coloured solid floorboard or the coloured solid piece of wood maintains its colour when subjected to wear and damages. Also refurbishing by grinding is possible, since the coloured veneer, the coloured wear layer for a laminated parquet floorboard, the coloured solid floorboard or the coloured solid piece of wood, is coloured deep into the wood. The coloured solid piece of wood may be a coloured board to be processed to a solid floorboard or to any other wood product, such as a coloured board for a furniture or a coloured moulding. The coloured veneer, the coloured wear layer for a laminated parquet floorboard, the coloured solid floorboard or the coloured solid piece of wood may be a dark coloured veneer, a dark coloured wear layer for a laminated parquet floorboard, a dark coloured solid floorboard or a dark coloured solid piece of wood. In one aspect, present invention relates to a coloured veneer, a coloured wear layer for a laminated parquet floorboard, a coloured board to be processed to a solid floorboard or a coloured solid floorboard produced according to the above method. In one aspect, the present invention relates to a coloured veneer, a coloured wear layer for a laminated parquet floorboard or a coloured solid floorboard produced according to the above method. In one aspect, the present invention relates to a coloured wear layer for a laminated parquet floorboard, a coloured board to be processed to a solid floorboard or a coloured solid floorboard. In one aspect, the present invention relates to a coloured wear layer for a laminated parquet floorboard or a coloured solid floorboard. The possibility to refurbish by grinding, preferably multiple times, is in particular an advantage for floors. Floors are usually also subjected to extensive wear. In one aspect, the present invention relates to a coloured veneer or a coloured wear layer for a laminated parquet floorboard. In one aspect, the present invention relates

to a coloured wear layer for a laminated parquet floorboard.

[0031] In one aspect, the present invention relates to a wood colouring method for darkening wood comprising the sequential steps providing a wood blank made of oak, ash or beech; wetting the wood blank with water by immersion of the wood blank in an aqueous bath; and subjecting the wetted wood blank to gaseous ammonia (NH₃) provided by evaporation of ammonia from an ammonium hydroxide solution having a concentration of NH₃ of 24 % by weight or lower based on the total content of NH₃ and water, whereby colouring of the wood blank to a darker colour is obtained into at least 1 mm from the surface of the wood blank.

[0032] In one aspect, the wood blank is made of oak or ash and colouring is obtained into at least 1 mm from the surface of the wood blank.

[0033] In one aspect, the wood blank is made of oak or ash and colouring is obtained into at least 1 mm to about 3 mm from the surface of the wood blank.

[0034] In one aspect, the wood blank is made of beech and colouring is obtained into at least 10 mm from the surface of the wood blank.

[0035] In one aspect, the wood blank has a thickness of 6 mm or less and colouring is obtained throughout the wood blank.

[0036] In one aspect, the wood blank is made of beech, wherein the wood blank has a thickness of 30 mm or less and colouring is obtained throughout the wood blank.

[0037] In one aspect, the wood blank is made of oak or ash or beech, wherein if the wood blank is made of oak or ash colouring is obtained into at least 1 mm from the surface of the wood blank and if the wood blank is made of beech colouring is obtained at least 10 mm from the surface of the wood blank.

[0038] In one aspect, the wood blank is made of oak or ash or beech, wherein if the wood blank is made of oak or ash the wood blank has a thickness of 6 mm or less and if the wood blank is made of beech the wood blank has a thickness of 30 mm or less, and wherein colouring is obtained throughout the wood blank.

[0039] By oak is meant a tree or shrub in the genus *Quercus*. In particular is white oak, such as *Quercus robur*, and red oak, such as *Quercus rubra*, suitable.

[0040] By ash is meant a tree or shrub in genus *Fraxinus*. In particular is European ash, also known as common ash, i.e. a tree or shrub of the species *Fraxinus excelsior*, suitable.

[0041] By beech is meant a tree or shrub in the genus *Fagus*. In particular is European beech, also known as common beech, i.e. a tree or shrub of the species *Fagus sylvatica*, suitable.

[0042] A laminated parquet floorboard is meant to include any laminated floorboard having a wear layer made of wood. A laminated parquet floorboard thus includes any floorboard made of at least two layers, wherein the uppermost layer is made of wood, which uppermost wood layer only is covered by a surface treatment such as lac-

quer or oil. By a wear layer of a laminated parquet floorboard is meant the uppermost wood layer, which uppermost wood layer only is covered by a surface treatment such as a lacquer or oil.

Experimental

[0043] Oak is sawed into wood blanks having a width of about 240 mm, a thickness of about 5 mm and a length of about 2.8 m. The wood blanks are put in a water bath during at least 48 hours, typically 48-72 hours. The wood blanks are removed from the water bath and put on drying stands where each wood blank is supported by two rods. The wood blanks on the drying stands are transferred to and enclosed in a closed space having a width of about 2.4 m, a height of about 2.8 m and a length of about 12 m. Within 1 hour from removing the wood blanks from the water bath, ammonia is supplied to the closed space by evaporation from an ammonium hydroxide solution kept in an open vessel. The ammonium hydroxide solution has a concentration of NH_3 of 21 % by weight based on the total content of NH_3 and water. The temperature within the closed space is about 20-24°C. Atmospheric pressure prevails in the closed space. The wood blanks are kept in the closed space for about 10 hours and 4.8 litres of the ammonium hydroxide solution is supplied each hour. Thereafter, the wood blanks of oak are cut across its longitudinal direction and the cross section is inspected. The oak has received a dark colour throughout the cross section.

[0044] Oak, ash and beech are sawed into wood blanks having a width of about 80 mm, a thickness of about 30 mm and a length of about 2.5 m. The wood blanks are treated, cut and inspected as detailed above. The oak and the ash have received a dark colour into about 3 mm from the surface of the wood blank. The beech has received a dark colour throughout the cross section.

[0045] Oak, ash and beech are sawed into wood blanks having a width of about 80 mm, a thickness of about 30 mm and a length of about 0.6 m. The wood blanks are put in a water bath with fresh water during at least 48 hours, typically 48-72 hours. The wood blanks are removed from the water bath and transferred to and enclosed in a closed space in the form of a sealed oil drum. Within 1 hour from removing the wood blanks from the water bath, ammonia is supplied to the closed space by evaporation from an ammonium hydroxide solution kept in an open vessel. The ammonium hydroxide solution has a concentration of NH_3 of 21 % by weight based on the total content of NH_3 and water. About 2 litres of the ammonium hydroxide solution is supplied to the closed space. The temperature within the closed space is about 20-24°C. Atmospheric pressure prevails in the closed space. The wood blanks are kept in the closed space for about 1 week. Thereafter, the wood blanks are cut across its longitudinal direction and the cross section is inspected. The oak and the ash have received a dark

colour about 3 mm from the surface of the wood blank. The beech has received a dark colour throughout the cross section.

[0046] The foregoing has described the principles, preferred embodiments and modes of operation of the present invention. However, the description should be regarded as illustrative rather than restrictive, and the invention should not be limited to the particular embodiments discussed above. The different features of the various embodiments of the invention can be combined in other combinations than those explicitly described. It should therefore be appreciated that variations may be made in those embodiments by those skilled in the art without departing from the scope of the present invention as defined by the following claims.

Claims

1. Wood colouring method for darkening wood comprising the sequential steps providing a wood blank; wetting the wood blank by means of a fluid; and subjecting the wetted wood blank to ammonia, whereby colouring of the wood blank to a darker colour is obtained.
2. Wood colouring method according to claim 1, wherein colouring is obtained into at least 1 mm from the surface of the wood blank, such as at least 2 mm from the surface of the wood blank.
3. Wood colouring method according to claim 1 or 2, wherein colouring is obtained throughout the wood blank.
4. Wood colouring method according to any one of the previous claims, wherein the wood blank is wetted with water.
5. Wood colouring method according to any one of the previous claims, wherein water is added to the wood blank by means of the wetting.
6. Wood colouring method according to any one of the previous claims, wherein the wood blank is wetted by immersion of the wood blank in a liquid bath of the fluid.
7. Wood colouring method according to claim 6, wherein the liquid bath is an aqueous bath.
8. Wood colouring method according to any one of the previous claims, wherein the wood blank is a veneer, a wear layer for a laminated parquet floorboard, a solid floorboard or a solid piece of wood, preferably the wood blank is a veneer or a wear layer for a laminated parquet floorboard.

9. Wood colouring method according to any one of the previous claims, wherein the wood blank has a thickness of 30 mm or less, such as 20 mm or less, such that 10 mm or less, such that 8 mm or less, such that 6 mm or less, such that 5 mm or less. 5
10. Wood colouring method according to any one of the previous claims, further comprising the step of drying the coloured wood blank, which drying step is performed after the step of subjecting the wetted wood blank to ammonia. 10
11. Wood colouring method according to any one of the previous claims, wherein the wood blank is a wood blank made of oak, ash or beech. 15
12. Wood colouring method according to any one of the previous claims, wherein the ammonia (NH_3) is provided from an ammonium hydroxide solution having a concentration of NH_3 of 24 % by weight or lower based on the total content of NH_3 and water. 20
13. Wood colouring method according to any one of the previous claims, wherein the wetted wood blank is subjected to gaseous ammonia. 25
14. Wood colouring method according to claim 13, wherein the gaseous ammonia (NH_3) is provided by evaporation of ammonia from an ammonium hydroxide solution having a concentration of NH_3 of 24 % by weight or lower based on the total content of NH_3 and water. 30
15. A coloured veneer, wear layer for a laminated parquet floorboard, solid floorboard or solid piece of wood produced according to the method of any one of claims 1-14. 35

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EUROPEAN SEARCH REPORT

Application Number
EP 15 16 1241

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 43 16 234 A1 (SCHWEIHER WOLFGANG [DE]) 17 November 1994 (1994-11-17) * column 1, lines 49-68; claims 1-2 * -----	1-12,15	INV. B27K1/00 B27K3/02 B27K3/20 B27K5/02
X	DE 259 075 C (DEUTSCHE WERKSTÄTTEN FÜR HANDWERKSKUNST IN HELLERAU BEI DRESDEN) 2 April 1911 (1911-04-02) * page 2, lines 59-69; claim * -----	1-15	
X	GB 29614 A A.D. 1913 (PETERSEN-HVIID LAURITZ [DK]) 25 March 1915 (1915-03-25) * page 2, lines 5-11 * -----	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			B27K
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 October 2015	Examiner Bjola, Bogdan
CATEGORY OF CITED DOCUMENTS 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 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			

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EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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12-10-2015

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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