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(71) Applicant: **Kasthall Mattor och Golv AB**
118 95 Stockholm (SE)

(72) Inventor: **Wijkmark, Göran**
114 54 Stockholm (SE)

(74) Representative: **Petri, Stellan**
Ström & Gulliksson AB,
P.O. Box 4188
203 13 Malmö (SE)

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(54) **A method of manufacturing a flooring panel**

(57) A method of manufacturing a flooring panel (1) comprises the steps of:

- a) gluing wooden slats (2) in a covering fashion on a backing board (3),
- b) applying a filler material over the wooden slats (2) in such a manner that cracks or slots in or between

the slats are filled,
c) forming the backing board (3) with its wooden slats (2) into a flooring panel (1) with desired dimensions, and
d) grinding the upper surface of the flooring panel (1) down to a clean wood surface.

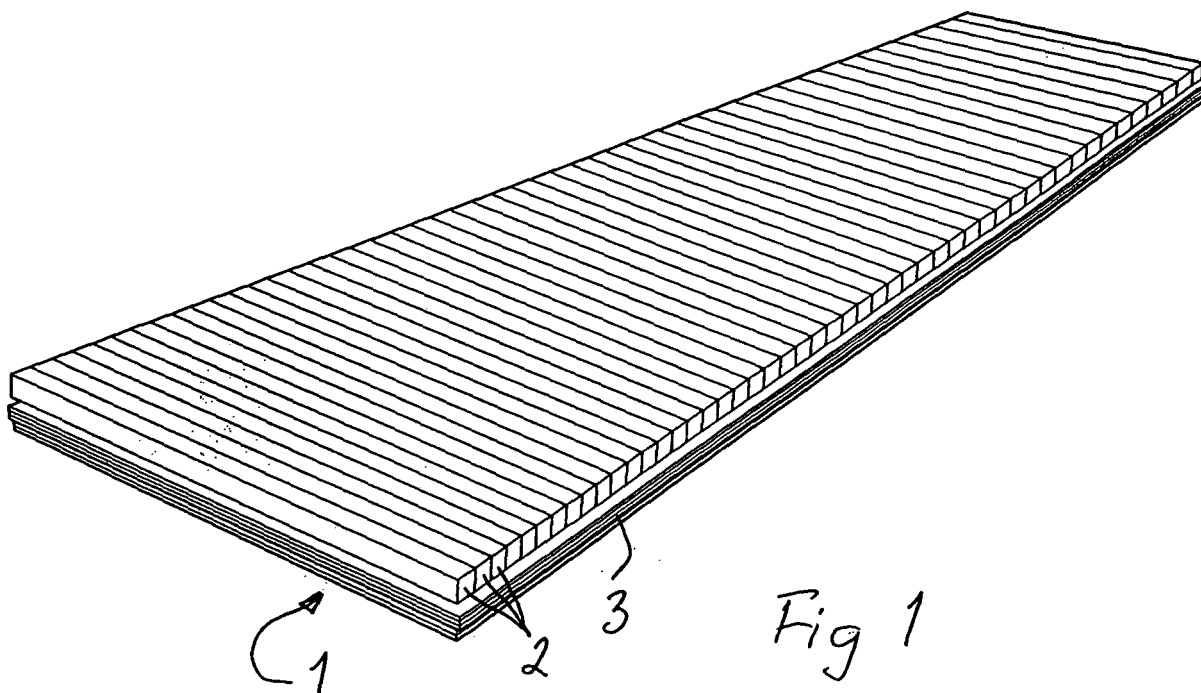


Fig 1

EP 1 688 560 A2

Description

Technical Field

[0001] The present invention relates to a method of manufacturing a flooring panel.

Background of the Invention

[0002] There is presently on the market a flooring of parquet-type comprising thin or narrow wooden slats. Each slat has a length of say 160 mm, a width of say 8 mm and a thickness of 20-22 mm. Such slats are put side by side in parallel to a length of say 400 mm and are provided with adhesive tape to form a packet or panel with a length of 400 mm, a width of 160 mm and a thickness of 20-22 mm.

[0003] Such panels are consecutively glued to a sub-floor to form a covering flooring.

[0004] When the flooring is completed, it is ground at least two times. A filler material is manually applied over the surface by means of a putty knife or the like, and the flooring is again ground two times. Thereafter it can be lacquered or oiled to receive its final appearance.

[0005] The entire laying and surface treatment process is very lengthy and expensive. It may take 5 days to lay a floor of 500 m², 2-3 days to grind it, 2 days to apply the filler material, 1-2 days to grind again, and 1-2 days to apply lacquer or oil, whereupon a couple of days are needed for drying, i.e. altogether about two weeks.

[0006] A further disadvantage is of course that grinding dust and noise are spread in the room in question as well as in neighboring rooms.

[0007] Although a homogenous wooden flooring accomplished in the described way is very high-class and beautiful, there is a need to provide a flooring material with the same appearance but without the drawbacks inherent in the described flooring.

The Invention

[0008] As set out in the appended claim 1, this is according to the invention accomplished in a manufacturing process for a flooring panel, comprising the steps of:

- a) gluing wooden slats in a covering fashion on a backing board,
- b) applying a filler material over the wooden slats in such a manner that cracks or slots in or between the slats are filled,
- c) forming the backing board with its wooden slats into a flooring panel with desired dimensions, and
- d) grinding the upper surface, namely the exposed slat surface, of the flooring panel down to a clean wood surface.

[0009] Further features of the invention are set out in the sub-claims.

Brief Description of the Drawings

[0010] The invention will be described in further detail below under reference to the accompanying drawing, in which Fig 1 is a perspective view of a flooring panel obtained by a method according to the invention, and Fig 2 is a view from the right in Fig 1 (and to a larger scale) of a portion of the flooring panel.

Detailed Description of a Preferred Embodiment

[0011] A rectangular flooring panel 1 consists of a great number of wooden slats 2 with a generally square cross-section, glued to a backing board 3 transversely to the longitudinal direction of the panel 1. The backing board 3 preferably consists of a plywood board. In a preferred and shown embodiment, the panel 1 is on its side or edge surfaces provided with grooves and tongues for enabling connection to other similar panels on a sub-floor or floor substrate to form a wooden floor.

[0012] Each such flooring panel 1 is manufactured in the following way:

The wooden slats 2 (of a kind of wood suitable for flooring purposes) are produced in a dimension of for example 190 mm x 10 mm x 10 mm. These slats are mixed, so that the final flooring panel 1 provides an heterogenous and lively appearance, and are glued on the backing board 3. This backing board may have a thickness of 10 mm or more, a length of 1200 mm, and a width of 190 mm and is preferably a plywood board. As stated, the slats 2 are glued transversely to the longitudinal direction of the plywood board 1.

A transparent filler material, which preferably is quickly hardening and may comprise 1,1-1,4-butanediol-diacrylate, is applied over the wooden slats 2, so that it covers the slats and fills all possible cracks or slots in or between the wooden slats and effectively locks the slats 2 together. One important effect is that it will later be possible to perform a sawing or milling operation without any risk for the slats 2 to break up or break away.

The next operation is to saw and/or mill the flooring panel 1 into its final rectangular form with a width of 160 mm or 170 mm. In a preferred case, the flooring panel 1 is simultaneously herewith provided with grooves and tongues at all edge surfaces. As said, the filler material on and between the slats 2 will prevent the slats from splintering during this operation. The further step is to grind away the filler material covering the slats 2 down to a clean wood surface, which means that the filler material remains between the slats and continues to provide the above advantages.

A final step in the manufacturing process may now be to apply a suitable lacquer in an industrial process, but it is alternatively possible to deliver the flooring

panel without any surface treatment. In the latter case, surface treatment, for example application of a suitable oil, can be performed after laying the flooring panels to a floor, as is well known in the art.

The obtained flooring panels are comparatively heavy, which means that glue may be applied only in dots and does not necessarily need to be applied over the entire substrate. It may even be possible to lay the flooring panels without glue and to rely on the locking obtained by the grooves and tongues of the flooring panels, possibly strengthened by glue therein.

As an alternative to the use of locking together different flooring panels by means of grooves and tongues, other known joining techniques, such as by clips, may be used. It is even possible to lay the flooring panels without joining them together. By its construction, the flooring panel is very stable against effects of moisture.

If certain flooring panels need to be cut at the laying in order to obtain adaptation to the surface to be covered, the applied filler material will still provide the advantage of keeping the slots 2 together and stabilize the structure.

en slat (2) has a cross-sectional dimension of 10 x 10 mm.

7. A method according to claim 3, wherein the plywood board has a thickness of 10 mm or more.
8. A method according to claim 1, wherein the flooring panel (1) has a length of about 1200 mm and a width of 160-170 mm and wherein the wooden slats (2) are glued to the backing board (3) in a direction transverse to the longitudinal direction of the flooring panel (1).

Claims

1. A method of manufacturing a flooring panel (1), comprising the steps of:
 - a) gluing wooden slats (2) in a covering fashion on a backing board (3),
 - b) applying a filler material over the wooden slats (2) in such a manner that cracks or slots in or between the slats are filled,
 - c) forming the backing board (3) with its wooden slats (2) into a flooring panel (1) with desired dimensions, and
 - d) grinding the upper surface, namely the exposed slat surface, of the flooring panel (1) down to a clean wood surface.
2. A method according to claim 1, wherein the backing board (3) is provided with grooves and tongues at its side edges in step c).
3. A method according to claim 1, wherein the backing board (3) is a plywood board.
4. A method according to claim 1, wherein the filler material comprises a transparent, quickly hardening material.
5. A method according to claim 4, wherein the filler material comprises 1,1-1,4-butandiol diacrylate.
6. A method according to claim 1, wherein each wood-

