July 22, 1958 M. A. JEANTELOT 2,843,885

PROCESS FOR MAKING WOODEN FLOOR PANELS

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FIG. 1

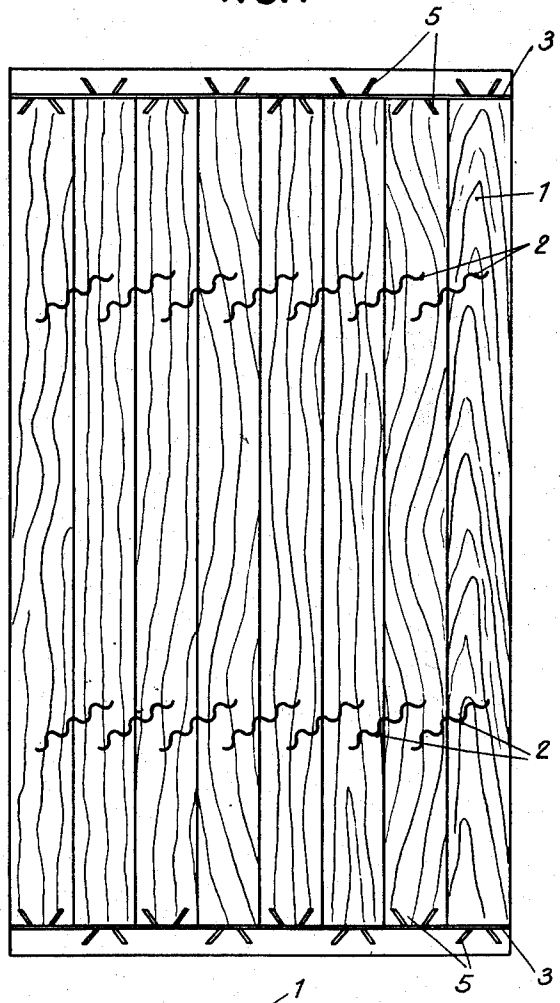
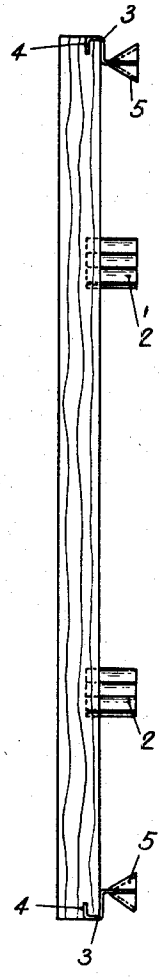


FIG. 2



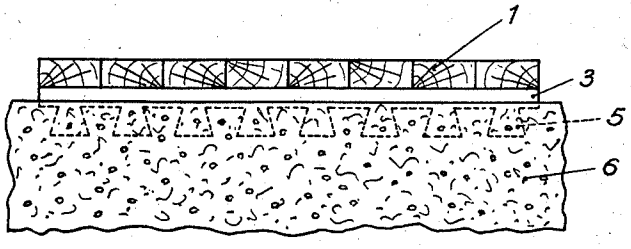


FIG. 3

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3 Claims. (Cl. 20—6)

The present invention relates generally to the treatment of the elements of wooden or wood-containing floors, floorings or like coverings as used in the building trade, particularly those adapted to be laid on a cement base or bed.

The laying of a floor made up of wooden laths or elements on a cement base involves difficulties which have not been satisfactorily obviated hitherto, the result often being an undue impregnation of the wooden elements by the wet cement and the formation of stains or blobs which show on the floor and mar its appearance. Moreover the intrinsic wetness of cement causes the wood to swell and may interfere with the proper setting of cement.

Such reactions of wood in the natural state present among other disadvantages in techniques of prefabrication the impossibility of incorporating wooden elements with cast slabs used for building floors. All attempts made heretofore for binding a wooden floor to a cement base by a casting process in a fashion similar to the laying of a flagstone pavement or to the erection of metal door frames or metal window sashes have so far given bad results because wood in the raw state cannot be bound to cement and also because of the stains which show on the floor and of the swell of wood as it is incorporated with a milk of cement. Wood in the raw state cannot withstand kiln treatment or drying cowl treatment as usually used for accelerating desiccation of prefabricated slabs and setting of cement.

An object of the invention is to obviate the aforesaid disadvantages of usual floorings and ground coverings while producing an improved flooring or covering made of wood or having a stabilized wooden base which is altogether unstainable by the cement during the laying operation, protected from moistening as known floors and sufficiently stable for being incorporatable with cast slabs in the art of prefabricating floor elements or panels.

According to the invention, there is provided a process comprising the steps of stabilizing wood after the formation of pre-assembled panels or elements adapted to be laid in position by immersing wood elements in a bath having a petroleum derivative or equivalent product base at a temperature higher than 120° C. for initiating a distillation process causing crystallization of the wood fibres while maintaining the state of immersion during a sufficient period for ensuring proper stabilization of wood fibres.

The liquid forming the base of the immersion bath may be a petroleum derivative such as those known as gas oil, fuel oil or the like, also gasoline.

According to a feature of the invention, there is advantageously admixed to the treatment bath an oily substance having for its purpose to prevent the wood or the covering material containing wood fibres from becoming cracked or fissured. Use may be made to that effect of suitable commercial oils. The proportion of oil which must be added to the treatment bath having a

petroleum derivative base will be determined to suit operative conditions, the nature of the wood to be treated, the particular petroleum derivative as used and like factors. Such proportion should not be such as might leave oily blobs on the elements of which the flooring or covering will be made up.

According to another feature of the invention, the treatment bath may contain a substance capable of doing away with the dangers arising from the manipulation of the aforesaid mixture, for example perchloroethylene in suitable quantity.

The temperature of the heat treatment involving an immersion of the material in the treatment bath is advantageously comprised in a range extending from 120° C. to 150° C. Such temperature is slightly higher than the temperature at which wood generally distils and which generally starts at 120° C. The distillation start thus carried out ensures stabilization of the wood fibres.

The duration of the immersion corresponding to the treatment may vary for example from three to ten minutes although immersion periods outside said limits may also give satisfactory results depending upon practical operative conditions, the exact nature of the mixture that forms the liquid bath and the character of wood subjected to the treatment. Wood elements or panels, which may or may not be preliminarily assembled treated as above described may be stored for a period which ought not preferably exceed eight days, whereafter they may be laid on the subjacent base or bed thereby forming a flooring or covering devoid of the disadvantages of known coverings.

The process according to the invention is particularly applicable to composite wood panels adapted to form parquet-like floorings and made up of laths or battens interconnected by clips of corrugated or undulated shape clinched into the adjacent portions of neighboring laths and projecting from one face of the panel for permitting grouting or sealing to the cement base or bed, said undulated clips being preferably arranged in such a slanting position as will permit the wood to be stabilized while allowing the same to become warped to a certain extent. In such a case, the several clips are preferably disposed in overlapping relation over a short distance.

Laths or battens having any desired length may be assembled by means of several parallel rows of clips set or clinched as above described. Such assembly by clips is sufficient particularly when dealing with wood having heterogeneous pores. When dealing with soft or tender wood or wood having homogeneous pores, the panels may be reinforced or strengthened, prior to immersion, by means of suitably shaped angle plates or strips attached to the opposite edges of the panels and preferably provided with sealing lugs or studs which increase the steadiness of the floor on the cement base.

The invention includes the panels obtained by assembling laths or battens interconnected by clips of undulated shape set or clinched into the adjacent portions of neighboring laths and projecting from one face of the panel for permitting them to be sealed to the cement base and characterized by having undergone a heat stabilization treatment by having been immersed into a bath having a petroleum derivative base maintained at a sufficient temperature for causing a distillation start of the wood stock.

For a better understanding of the invention, reference will now be made to the accompanying drawing in which is shown by way of illustrative but non-limitative example a suitable embodiment of the invention.

Fig. 1 is an under plan view of a panel for composite flooring obtained by the process according to the invention.

Fig. 2 is an edge view corresponding to Fig. 1.

Fig. 3 is an end view showing how the marginal portions of the panels are held down in the cement base or bed.

The flooring panel as shown on the drawing is prepared by uniting together wooden laths **1** by means of inclined clips **2** of undulated outline which are set or clinched into the adjacent portions of neighboring laths as clearly visible in Fig. 1 and are so arranged in rows that two adjacent clips **2** slightly overlap. The clips **2** occupy a slanting position for facilitating proper hold while permitting the wooden laths to become warped to a certain extent during the heat treatment as described hereafter. The clips **2** project from the lower face of the panel as shown in Fig. 2, the projecting portion of the clips being utilized for sealing them into the cement base so as adequately to hold down the panel on it.

Each extreme edge of the panel has fixed thereto an angle member **3** the cross sectional shape of which is clearly visible on Fig. 2. Such angle member is provided with an inwardly bent wing **4** set or clinched into the end face of the panel. Such wing **4** may have a straight or serrated edge for increasing mechanical resistance, and it checks any relative displacement between the end portions of the laths **1**. The body portion of the angle member **3** encompasses an edge of the panel as illustrated and terminates in sealing lugs **5** obtained by stamping or otherwise. Such sealing lugs **5** are adapted to be imbedded in the cement base **6** as shown in Fig. 3.

After the laths of which the flooring panel is to be made up have been assembled, the panel is immersed for a period ranging from three to ten minutes in a heat stabilization bath comprising a mixture of gas oil, commercial oil and perchloroethylene maintained at a temperature comprised between 120° C. and 150° C. This causes a distillation start of the thus treated wood stock while stabilizing the same. The panel is then withdrawn from the treatment bath and stored for a few days before being laid upon the cement base such as **6**.

The distillation start of the wood stock as achieved during the above-described treatment does away with any regaining of moistness as the laths are laid upon a cement base, also with any stains or blobs on the panel once it has been laid in position. The panel may resist fairly heavy loads and its appearance is not modified at all by moist heat. The clips **2** and the sealing lugs **5** which may be provided at its end permit a very satisfactory laying of the panels on the cement base to be obtained.

Minor details of the process may be varied without departing from the ambit of the invention.

What is claimed is:

1. A process for manufacturing wooden fabricated elements for floors, floorings or like coverings, comprising the steps of interconnecting wooden laths into panel form, driving clips of undulated outline into the adjacent portions of the neighboring laths, while arranging said clips in such a slanting position as to cause them to overlap one another over a slight distance for retaining said laths to said panel form, said clips projecting from said panel for permitting sealing into a cement base, immersing the resultant panel into a liquid bath containing a petroleum derivative selected from the group comprising gas oil and fuel oil, at a temperature ranging from 120° to 150° C., for starting distillation of the wood, and maintaining said immersion for a time ranging from three to ten minutes.

2. A process for manufacturing wooden fabricated elements for floors, floorings or like coverings, comprising the steps of interconnecting wooden laths into panel form, driving clips of undulated outline into the adjacent portions of the neighboring laths, while arranging said clips in such a slanting position as to cause them to overlap one another over a slight distance, for retaining said laths to said panel form, said clips projecting from said panel for permitting sealing into a cement base, fitting upon the end portions of the panel angle members provided with sealing lugs for increasing the stability of the panel on the cement base, immersing the resultant panel into a liquid bath containing a petroleum derivative selected from the group comprising gas oil and fuel oil, at a temperature ranging from 120° to 150° C., for causing a distillation start of the wood, and maintaining said immersion for a time ranging from three to ten minutes.

3. A process for manufacturing wooden fabricated elements for floors, floorings or like coverings, comprising the steps of interconnecting wooden laths into panel form, driving clips of undulated outline into the adjacent portions of the neighboring laths, while arranging said clips in such a slanting position as to cause them to overlap one another over a slight distance, for retaining said laths to panel form, said clips projecting from said panel for permitting sealing into a cement base, fitting upon the end portions of the panel angle members provided with sealing lugs, for increasing the stability of the panel on the cement base, immersing the resultant panel into a liquid bath containing a petroleum derivative selected from the group comprising gas oil and fuel oil, an additional commercial oil and perchloroethylene, at a temperature ranging from 120° to 150° C., for causing a distillation start of the wood, and maintaining said immersion for a time ranging from three to ten minutes.

References Cited in the file of this patent

UNITED STATES PATENTS

1,464,044	Marr	Aug. 7, 1923
2,296,316	Stamm	Sept. 22, 1942
2,464,429	Barksdale	Mar. 15, 1949
2,482,405	Edlund	Sept. 20, 1949
2,538,457	Hudson	Jan. 16, 1951

FOREIGN PATENTS

470,558	Great Britain	Aug. 17, 1937