

April 26, 1927.

1,626,117

T. B. MUNROE

FLOORING MATERIAL

Filed July 6, 1925

2 Sheets-Sheet 1

FIG. 1.

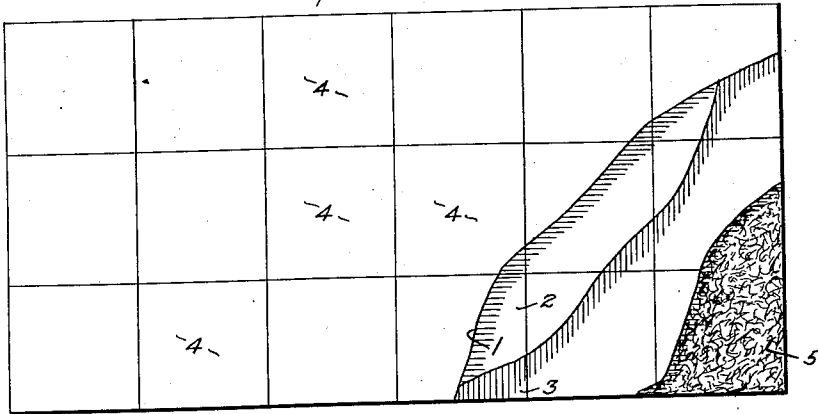


FIG. 2.

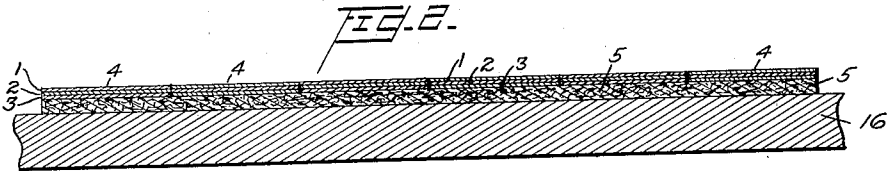


FIG. 3.

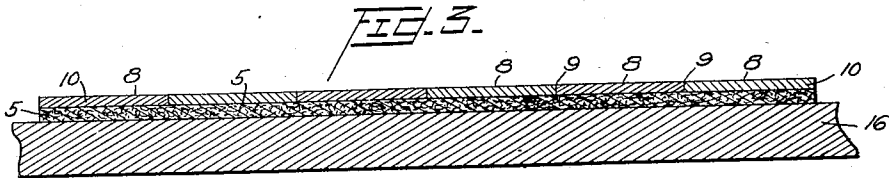


FIG. 4.

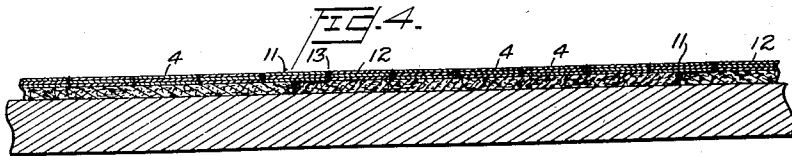
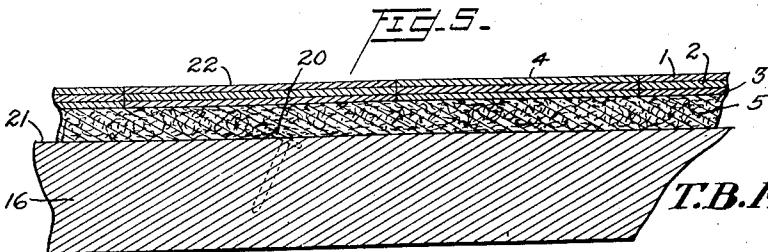


FIG. 5.



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Fig. 6.

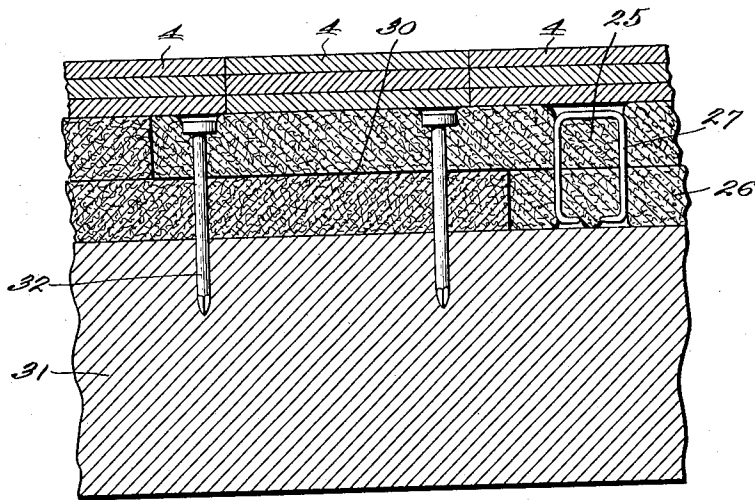
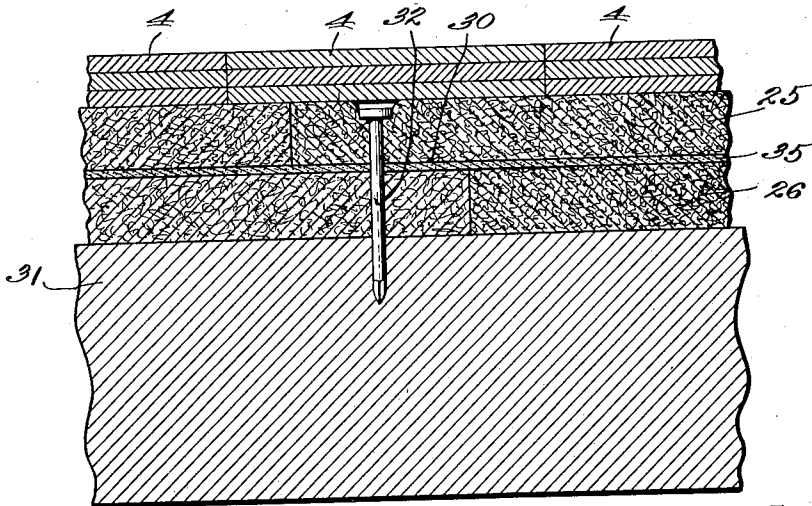


Fig. 7.



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# UNITED STATES PATENT OFFICE.

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## FLOORING MATERIAL.

Application filed July 6, 1925. Serial No. 41,642.

This invention relates to parquette flooring material and has for its object to improve the constructions which have been heretofore proposed.

5 With this and other objects in view the invention consists in the novel details of construction and arrangements of parts more fully hereinafter disclosed and particularly pointed out in the claims.

10 Referring to the accompanying drawings forming a part of this specification in which like numerals designate like parts in all the views:

15 Figure 1 is a plan view partially broken away showing a portion of one form of a parquette floor made in accordance with this invention;

Figure 2 is a transverse sectional view of the parts shown in Fig. 1;

20 Figure 3 is a transverse sectional view of a somewhat modified form of the invention shown in Fig. 1;

25 Figure 4 is a transverse sectional view similar to Fig. 2 showing a portion of a floor made in accordance with a still further modified form of the invention;

Figure 5 is an enlarged detail sectional view of the parts shown in Fig. 2, illustrating an important feature of this invention;

30 Fig. 6 is an enlarged sectional view in detail illustrating the application of a plurality of laminated layers of Celotex material directly to the joists; and

35 Fig. 7 is an enlarged detail sectional view of a modification of the construction shown in Fig. 6.

In order that the precise invention may be the more clearly understood it is said:—

40 It is well known that parquette floors are considered to be very attractive and to have good wearing qualities. When it is necessary, however, to lay small pieces of this material, it makes an expensive floor and one that is not altogether satisfactory because  
45 it is not as resilient as one would desire. Various means for overcoming the necessity of laying each individual piece of parquette have been proposed but are all more or less unsatisfactory largely due to the fact that  
50 when the said parquette material is laid over an ordinary floor or a wood foundation any irregularities in the floor underneath make the parquette floor itself uneven, and again, the floor is not resilient.

55 There is now on the market what is known

as Celotex wall boards which are made from the partially cooked fibers of bagasse, and which fibers are later made into a board of about one-half inch in thickness and which is provided with numerous air cells or interstices. The fibers being only partially  
60 cooked retain substantially all of their original strength and therefore the resulting board is exceedingly strong and firm so that it may be substituted for lumber in very  
65 many cases. Owing to the numerous air cells or interstices with which the board is provided the heat insulating qualities of the board and the sound deadening qualities thereof are very high. The board  
70 is also compressible so that it makes an ideal heat insulating and sound deadening material, as well as a cushioning support for floor surfaces.

By the present invention the individual  
75 pieces of parquette are bonded in the factory to large sized units of any suitable compressible fibrous material having a sufficient amount of strength for the purpose in hand. It has been found that the well known  
80 commercial article known as Celotex produced in such sizes as 3' x 6' or 4' x 8' will therefore provide large units that can be readily and cheaply handled, can be laid by more or less unskilled labor, and they can be laid over  
85 an uneven floor, where the Celotex, due to its resiliency, will take up these unequalities in the floor, protect the parquette above, and given an even, soft, attractive parquette  
90 floor.

According to this invention parquette floor material of any desired shape will go to the job already applied by bonding to the Celotex with a casein or other suitable cement, and will then be laid as units directly on an existing or new wood, concrete or other base by nailing to a wood base with finishing nails, or to a concrete base by a suitable adhesive. In fact, such a construction might be laid directly to floor joists by  
100 laminating two layers of Celotex together and applying the parquette to this double thickness base.

That is to say, referring first to Figs. 1 and 2, the individual parquette wood members 1, 2 and 3 are glued or otherwise secured together with their grains crossing as indicated in Fig. 1, and they are preferably formed in the shape of squares 4 as is indicated in Fig. 1. To a plurality of the

squares or other shapes 4 thus formed, is glued on the underside, or to the members 3, the Celotex material 5 to complete the finished unit of flooring material. When this said unit consisting of the plurality of individual and preshaped pieces of veneered wood material and the Celotex material is thus completed, it is laid on a suitable foundation such as the old flooring 16 in the manner well known, and when other units are likewise laid adjacent thereon, and secured thereto in the usual manner, the floor is completed.

Such a floor is found to have unusual sound deadening qualities, it is soft and pleasant to the feet, and it has unusually high heat insulating qualities, so that it makes an ideal floor that is relatively cheap due to the low price of the Celotex material.

In the modified form of the invention shown in Fig. 3, the individual squares or pieces 8 are not made in three-ply, but are made of single layers of parquette 10 which may be of the usual thickness. In every other respect the squares 8 are exactly like the squares 4; that is, they are cemented to the Celotex material, and their contacting edges are glued or otherwise fastened together as at 9.

In Fig. 4, the squares 4 are made of a plurality of layers of wood veneered material with their grains crossed as is the case in Fig. 1, but the edges of the Celotex material 5 are offset from, instead of being flush with, the edges of the outside squares 4 of the flooring unit. That is, a given outside square such as 11 will have an edge which will overhang or lie beyond the edge of the sheet of Celotex to which said square is cemented. The opposite edge of the Celotex material will on the other hand extend beyond the outer edge of the superimposed outside square 12 of the veneer material. Thus it will be seen that when the units are laid as a floor there will be provided a lap joint formed by the seam 13 between the outside squares 11 and 12 which will be staggered with relation to the seam 14 between the edges of the adjacent Celotex base members.

This lap joint may be glued or otherwise suitably secured to make a tight and permanent fastening.

With particular reference to Fig. 6 it will be observed that parquette flooring may be secured, at the factory as above disclosed, to a plurality of layers of Celotex such as indicated by the numerals 25 and 26 which are secured together as by staples 27 in such manner that the edges of the upper layer 25 will extend beyond the edges of the lower Celotex sheet 26 thus forming a lap joint, as indicated at 30, when a plurality of these laminated layers are placed together, all as will be clear from said figure. The parquette units may be secured directly to the

floor joist 31 in any suitable way as by the nails 32 passing through the Celotex, or by the usual finishing nails which may be driven into said joists through the finished units. In this respect the lap joint 30 may be cemented or not as desired.

In the modification shown in Fig. 7 the Celotex unit is prepared as described for Fig. 6 with the exception that the individual sheets 25 and 26 are not stapled together but are secured as by a cementitious bond 35 of any suitable character. A like or similar cementitious bond may be applied to the lap joint 30 and the entire parquette unit secured to the floor joists as above described. Thus it will be seen from Figs. 6 and 7, that the parquette flooring units may be laid directly to the floor joists instead of being laid over the old flooring or other suitable foundation such as indicated at 16, in Fig. 5.

A great advantage of the Celotex layers resides in the fact that they may be sawed just like lumber. Another advantage of greater importance is that these layers of Celotex material constitute a soft backing or support which yields to any unevennesses due to the warping or distortion of the wood layers, or any irregularities existing in the surface on which this veneer unit is to be laid. An example of this is well illustrated in Fig. 5, wherein the head of a nail 20 is shown protruding above the surface 21. It will be readily understood that due to the compressibility of the Celotex material, the fibers adjacent the nail head will yield inwardly so that the finished veneered surface 22 will be perfectly smooth over said nail or other unevenness.

Another advantage of the Celotex layers underlying the parquette blocks resides in the fact that Celotex has a sufficient rigidity and strength to enable large blocks of parquette material to be firmly glued thereto, and the flooring itself may be finished in the factory as by polishing and varnishing the same. That is, the parquette blocks with the Celotex blocks attached thereto can be laid out in the factory, the surface scraped and smoothed down by factory methods and the entire floor finished by factory methods at a minimum of cost, after which the parts can be separated, brought to the place of use and laid down as a permanent floor. All of this is impossible of being carried out successfully when an oakum foundation is used, or in fact when any other foundation other than Celotex is used with which I am acquainted.

In other words, I am well aware that it has been heretofore proposed to lay parquette material on cushioning foundations such as oakum, but in all cases that have come to my knowledge it is essential that each independent block or parquette mate-

rial must be nailed through the oakum or other material to the sub-floor. If this is not done the individual block tends to tilt when walked upon, or when furniture is rolled across the surface. With Celotex, on the other hand, the individual blocks are firmly held and there is no tilting action at all observed. Further, it is well known that ordinary parquette blocks have been heretofore nailed to a sub-floor, but the tendency always exists for these blocks to warp. This tendency is further present when a soft foundation, such as oakum is employed, because the oakum is not of a sufficiently uniform softness to enable one to secure successfully large blocks of parquette material thereto and therefore it is not possible to hold the relatively smooth pieces of wood sufficiently to the entire surface of oakum to prevent this warping. Celotex, on the other hand, when applied as above described is sufficiently strong and rigid to prevent this warping.

Another advantage of the use of Celotex material as a sub-foundation for parquette blocks resides in the fact that when the ply wood floor sections are glued to Celotex under hydraulic pressure, the resultant top surface is smooth and flat and free from ridges as well as from surface irregularities. In other words, the edge of one piece of wood lies accurately in the same plane with the edge of the adjacent piece of wood so that an unusually smooth surface is obtained in the finished floor. Such a result is not possible when oakum or other similar cushioning material is used due to the fact that all other materials yield unevenly over large surfaces and the result is the ply wood material is not accurately in the same plane throughout a large floor surface as it is when Celotex is used as the sub-foundation. In addition to the foregoing in order to get a comparatively inexpensive parquette floor it is necessary to carry out a number of the various manufacturing operations at the factory, such for example, as sanding in a drum sanding machine. Celotex is found to stand this action very satisfactorily indeed while oakum and other material are not suitable for these factory operations.

Of course, other forms of ply wood as well as of celotex and other numbers of veneer layers can be provided without departing from the spirit of the invention. For ex-

ample, one unit of Celotex may have a plurality of veneer pieces secured thereto or laid thereon, in the form of hexagons, strips, etc., to make a pattern of pleasing design, instead of squares as illustrated. Further, said veneer members may be of any desired thickness. Therefore, the foregoing is merely illustrative of the invention and it is not desired to be limited thereto except as may be required by the claims.

What is claimed is:—

1. The herein described resilient floor material comprising layers of wood and rigid layers of compressible fibrous material secured to said wood, ready for laying in place to form a floor.

2. The herein described floor material comprising a rigid plurality of finished units, each consisting of a layer of wood and a layer of compressible fibrous material secured to said layer of wood, and ready to be formed into a floor.

3. The herein described floor material comprising a plurality of layers of wood secured together with their grains crossing and formed into a predetermined shape; and a layer of rigid compressible fibrous material secured to said layers of wood, the whole being in a finished condition ready to be formed into a floor.

4. The herein described floor material ready for use in laying a floor and comprising a plurality of layers of wood secured together with their grains crossing and formed into a predetermined shape; and a rigid plurality of layers of fibrous material secured to said layers of wood.

5. The herein described finished floor material comprising a layer of wood composed of a plurality of individual pieces of parquetry secured together and a rigid layer of compressible cellular material secured to said layers of wood, the whole being ready to form a part of a finished floor.

6. The herein described floor material comprising a plurality of layers of wood made up of individual pieces of parquetry secured together with their grains crossing and formed into a predetermined shape; and a rigid layer of resilient compressible material secured to said layers of wood, the whole being capable of forming a part of a finished parquette floor.

In testimony whereof I affix my signature.

TREADWAY B. MUNROE.