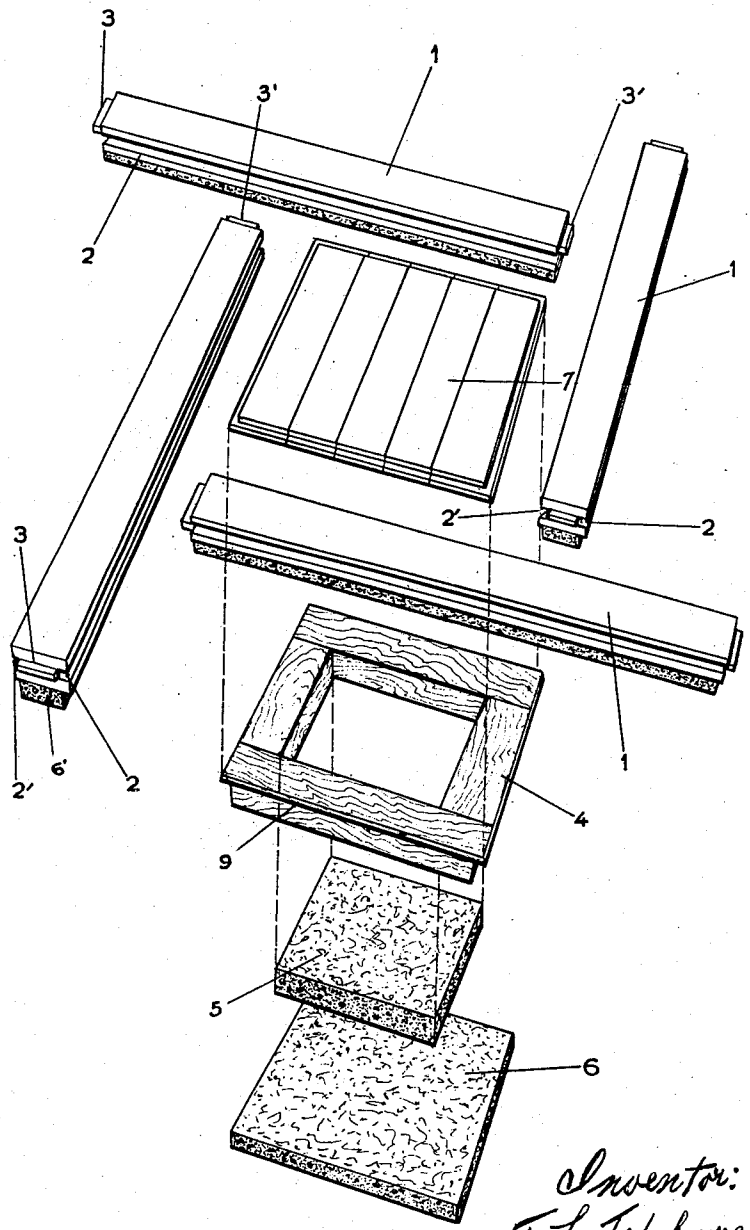
Feb. 16, 1954 F. L. TAPHOUREAU 2,668,991

FLOOR UNIT

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FIG. 1



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FIG. 2

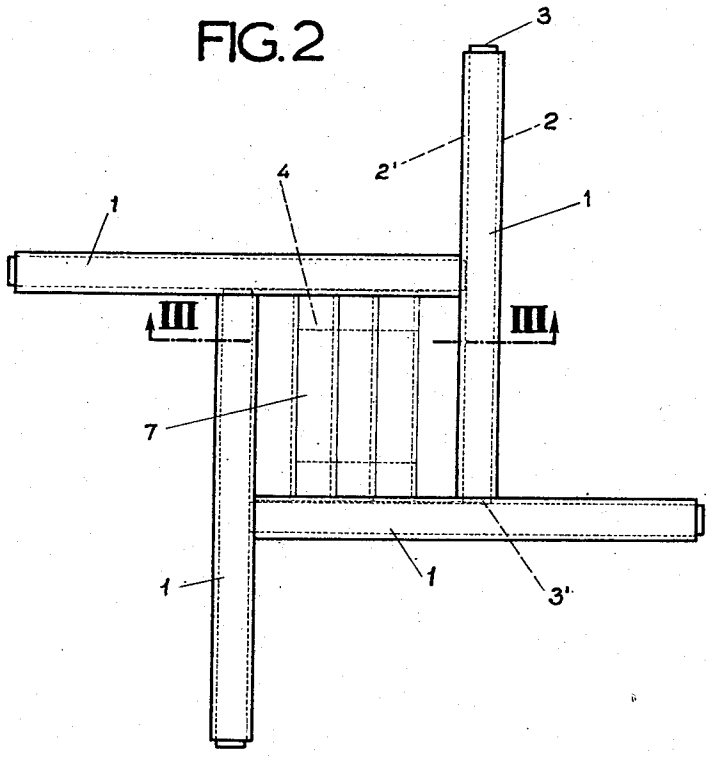
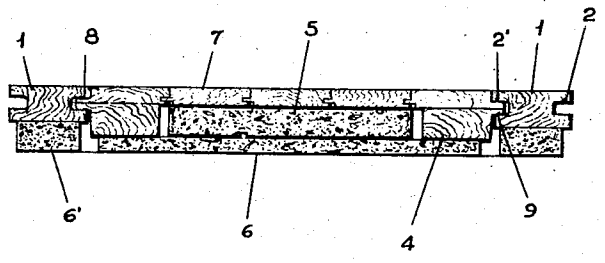


FIG. 3



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FIG. 5

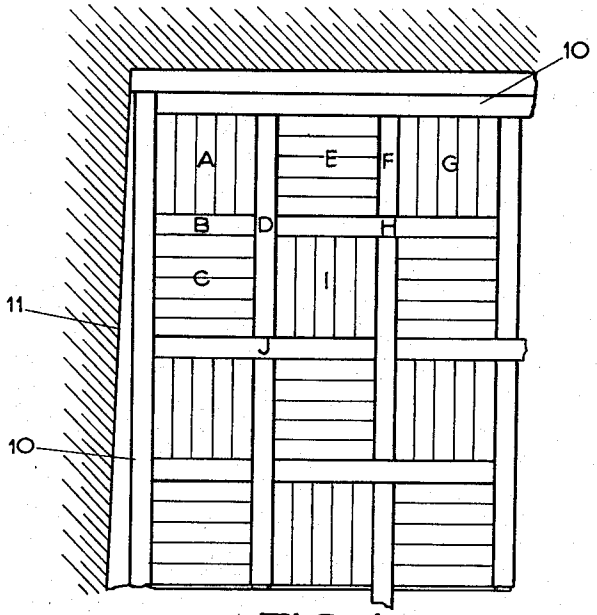
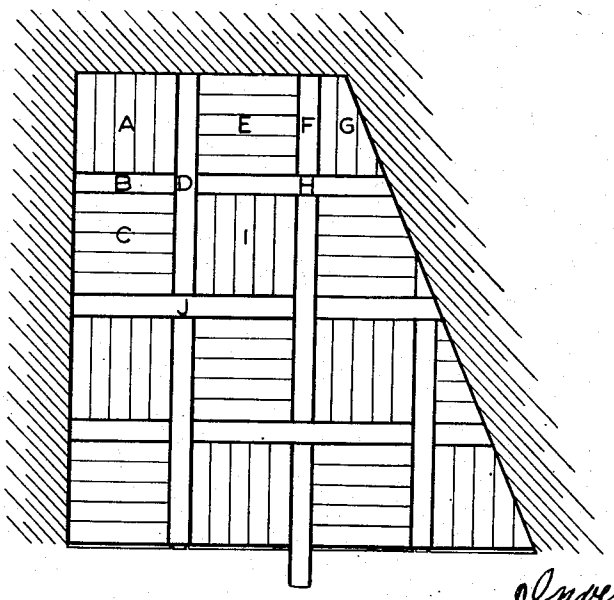


FIG. 4



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UNITED STATES PATENT OFFICE

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FLOOR UNIT

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Application March 1, 1949, Serial No. 78,972

Claims priority, application France May 11, 1948

1 Claim. (Cl. 20—75)

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My invention relates to keying strips for floorings, and more particularly to improvements in said keying strips for enabling prefabricated flooring panels to be easily and quickly united together.

It is well known to effect the laying of floorings by means of framing strips having co-operating edges provided with grooves and lugs respectively, said framing strips being nailed on wall-plates or other suitable supporting members.

It is further known, however, that in the building art a maximum saving of labour and material, and consequently the use of prefabricated units for wooden floors, is of great interest under the present conditions, such prefabricated units being formed in the shop and assembled in the yard by the simplest means, preferably without nailing or gluing or using any special fixing or sealing device or arrangement.

I have previously designed true machined flooring panels essentially comprising an under form or base made of a light and insulating material so agglomerated as to present a predetermined thickness, and an upper wooden facing, said upper facing and said under form being united together by means of an insulating and adhesive layer. Said flooring panels manufactured in the shop were ready for assembling or laying on plane surfaces as conventional pavements. The fixation of such elements, however, was not quite satisfactory, since it was effected by means of lugs co-operating with grooves, said grooves and lugs being formed in opposite edges of the flags or panels respectively, and since in use said lugs have proven to be fragile.

An object of my invention is to provide a new uniting arrangement for prefabricated flag units.

Another object of my invention is to provide an improved keying strip for uniting prefabricated flags or panels together.

A further object of my invention is to provide a flooring adapted to be placed as a whole on a plane area to be covered, by successively uniting the above-mentioned elements together.

Yet another object of my invention comprises a method of laying a wooden flooring made of the above-mentioned prefabricated elements.

A keying strip according to my invention has a length amounting to twice the length of the associated flag or panel, plus its own constant width. Such a keying strip is united with a flag through longitudinal grooves provided on both longitudinal edges of the keying strip and cooperating with laterally projecting lugs formed in the edges of the prefabricated flag or panel. On the other

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hand, a plurality of keying strips may be united together by means of projecting lugs matched on the end edge of said strips to engage the longitudinal grooves in perpendicularly arranged keying strips.

According to another feature of my invention, I provide a prefabricated flooring element comprising in combination a square flag or panel and four laterally surrounding keying strips adapted to be assembled with similar adjacent elements in course of a laying process.

In an improved embodiment of an unsonorous flooring according to my invention, a panel of flag comprises a number of different elements united together, namely: a wooden frame of generally square shape having placed therein a filling of an insulating material glued thereto, preferably by means of bitumen; an under layer constituting an under facing and formed of a sheet of cork or other suitable insulating material glued to the under face of the frame and of the insulating filling, by a convenient binding material such as bitumen; and an upper facing formed of thin wooden strips of commercial thickness, which are matched and grooved and are united together in the usual way, and are further glued to the upper face of the frame and of said insulating filling. The whole assembly is then machined along its lateral faces for obtention of a male profile extending along the four lateral edges thereof.

In this embodiment, the keying strips, if desired, are provided with an under facing or layer made of an insulating material glued on the under face of said keying strips, said facing having such a height that the width of the completed keying strips is made equal to that of the flags or panels which are to be united therewith.

The method of laying a flooring made of the above-mentioned prefabricated elements consists in uniting together, when effecting the laying, said prefabricated elements comprised of square flags or panels surrounded along their four lateral edges with related keying strips having a length amounting to twice that of said flag edges, plus the constant width of said keying strips proper, as already stated, said keying strips being provided with grooves along both longitudinal edges and with lugs along both end edges, as above-mentioned. In order that the play of the wood be compensated for, the flooring strips in adjacent panels will be directed at right angles from each other.

My invention will be best understood from the following description of preferred embodi-

ments thereof, taken in conjunction with the annexed drawing, wherein:

Fig. 1 is an exploded view showing a prefabricated element according to my invention, comprising a square panel or flag associated with four keying strips;

Fig. 2 is a plane view of Fig. 1;

Fig. 3 is a longitudinal sectional view taken along line III—III of Fig. 2; and

Figs. 4 and 5 are plane views showing the manner in which the various elements of a wooden flooring are to be united.

Referring to Figs. 1, 2 and 3, the keying strip 1 of my invention is longitudinally grooved at 2 and 2', and matched at both ends to present projecting end lugs 3, 3' for engaging the related grooves of two similar, perpendicularly arranged keying strips on which said ends abut.

In the embodiment illustrated, the flooring flag or panel is an unsonorous flag essentially comprising a supporting frame 4, made of deal or another similar soft wood; the sides of the supporting frame 4 have an equal predetermined length; a filling 5 made of cork, wooden scraps, fibre or the like is introduced within said supporting frame 4 and is attached to the inner edges thereof as by gluing. Under the supporting frame 4 a sheet or plate 6 is applied by means of an adhesive binding, preferably bitumen. The sheet or plate 6 is made of cork or another convenient insulating material, and rests on the supporting members in the room to be covered, in order that the building be unsonorous. For the same purpose a similar strip 6' is attached to the under face of each keying strip 1, as by gluing; the width of the strip 6' is so chosen, that, taking into account the height of the keying strip 1 proper, the total width of said keying strip with its attached under layer 6' be made equal to the total width of the associated panel.

An upper facing is fixed on the supporting frame 4 and comprises a plurality of matched and grooved flooring strips of commercial thickness united together in the fashion of the conventional flooring elements, as may be seen from the sectional view of Fig. 3. Said strips however generally have a lesser thickness than the conventional flooring strips. The upper facing 7 is made integral with the supporting frame 4 and with the insulating filling therein by gluing, and this assembly is then machined for providing a male projection laterally extending from the four edges thereof.

According to a modification of my invention (not shown), the panel, instead of comprising a thin wooden facing made of a hard wood glued on a frame made of soft wood such as deal and provided with a cork under layer, is solid, and the cork under layer is glued directly thereunder.

In this embodiment, the play due to wood dilation is compensated for by dilation joints alternately cut in the upper and under surfaces of the panel and extending in the direction of the fibres of the wood, said joints having a depth substantially equal to half the thickness of the panel, and being filled with wax or another suitable plastic material.

Fig. 4 shows the general form of a prefabricated wooden flooring united according to my invention.

Referring now to this figure, the keying strips 1 are united together by their end lugs engaging a longitudinal groove 2 in another perpendicularly arranged keying strip at the middle point thereof. Whenever a wooden flooring element is so disposed as to abut against a wall or partition of the room to be floored, said element is merely cut with the convenient angle, as shown at the right of Fig. 4.

When laying a wooden flooring in using my improved prefabricated elements, one starts from an edge of the room to be floored and the panels provided with their attached keying strips 1 are successively united together according to the alphabetic order or the reference letters of the various elements in Fig. 4.

In Fig. 5, I have shown how it may be proceeded for laying a wooden flooring according to my invention in a room the walls of which do not intersect at right angles. It is seen from this figure that in such a case the room may be encircled along its walls by an encircling wooden frame 10. Moreover, in order that the obliquity of the room walls be compensated for, an auxiliary strip 11 may be inserted at a convenient place between the face of the related wall or partition and the frame 10. In Fig. 5, as in Fig. 4, the order of laying of the various flooring elements has been indicated by reference letters, the alphabetic order of which corresponds with said laying order.

While I have described and illustrated my invention in connection with specific embodiments thereof, it is to be clearly understood that these embodiments have been given merely by way of illustration and are not intended to limit the scope of my invention as set forth in the appended claim.

What I claim is:

A flooring unit comprising a panel having four equal sides, the edges of said sides being provided with interfitting runners the length of the runners being equal to twice the length of each of said sides of said panel plus their own width, said runners being provided with longitudinal grooves along the sides of said runners and comprising a tongue at their longitudinal ends for mutual engagement of said runners, said panel further comprising a frame and an upper facing attached to said frame and formed of a number of flooring strips parallel to one side of said frame, said upper facing and said frame having along all the sides thereof an outwardly projecting common tongue, said common tongue engaging said longitudinal grooves formed in said sides of said runners, whereby said upper facing and said frame are maintained pressed towards each other and said upper facing, and said frame and said runners being maintained in mutual engagement.

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