Jan. 7, 1930. P. GALASSI 1,742,855

METHOD OF AND MEANS FOR PRODUCING ANTISLIP TERRAZZO FLOORINGS

Filed Jan. 18, 1928

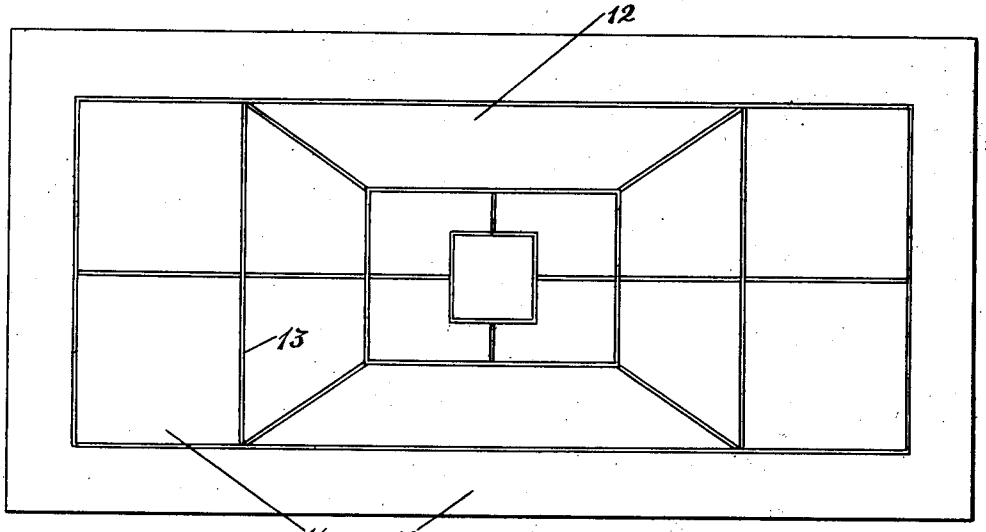


Fig. 1

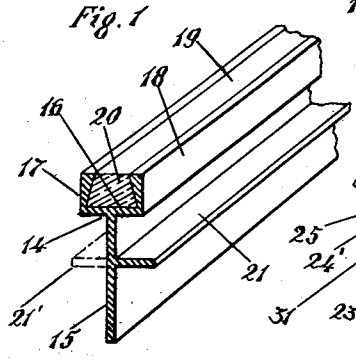


Fig. 2

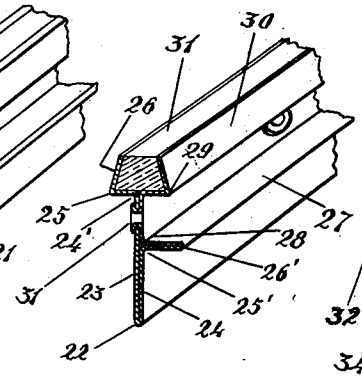


Fig. 3

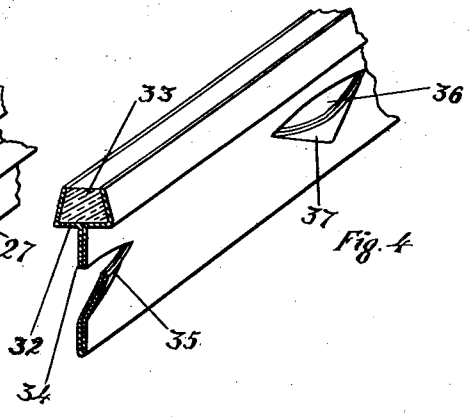


Fig. 4

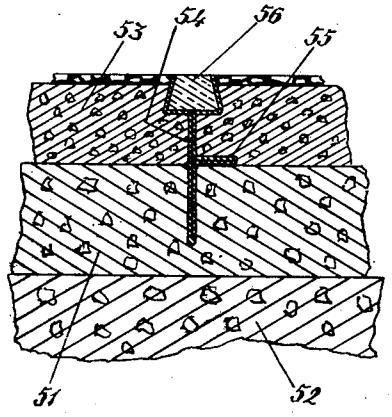


Fig. 7

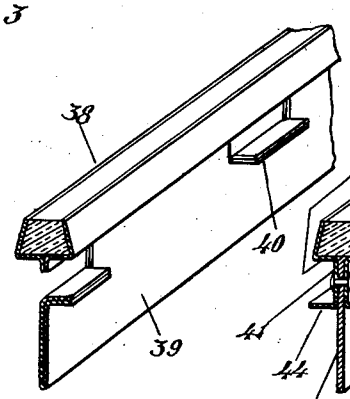


Fig. 5

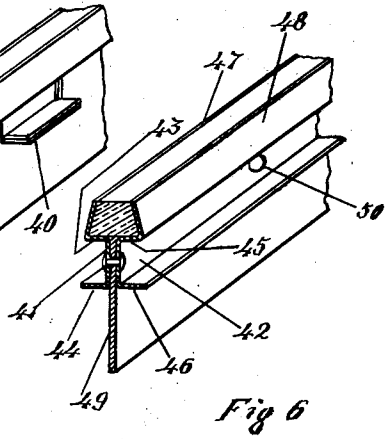


Fig 6

Inventor

Pasquale Galassi

By his Attorney

Guido dal Lacendo

Patented Jan. 7, 1930 1,742,855

UNITED STATES PATENT OFFICE

PASQUALE GALASSI, OF NEW YORK, N. Y.

METHOD OF AND MEANS FOR PRODUCING ANTISLIP TERRAZZO FLOORINGS

Application filed January 18, 1928. Serial No. 247,617.

This invention relates to composition floorings such as terrazzo, granolithic and stucco, and more particularly the invention refers to a novel and improved method of producing floorings of the character specified, whereby anti-slip properties may be conferred to the floors produced, at the same time achieving new and pleasing decorative effects.

Terrazzo, granolithic and similar floors usually comprise a foundation bed, or layer of concrete, cement, mortar or other suitable material, and a superposed layer usually composed of small pieces of marble, mixed with a suitable bonding agent, such as cement.

After the foundation layer has been allowed to harden to a sufficient degree of consistency, it becomes possible to place in position the upper layer which is generally divided into geometrical or ornamental units in the form of panels or blocks which are obtained by outlining the desired design by means of strips placed on or inserted through the under bed, or attached thereto.

The dividing strips, which were formerly removed, have of recent years been substituted by thin metal strips set on edge, their upper edges constituting a leveling gauge facilitating the laying of the terrazzo composition.

These strips are left permanently in position and constitute an integral part of the finished floor, adding to the attractiveness of the floor by producing novel effects and at the same time localizing such cracks as may occur in the individual units of which the floor is composed.

The strips used for this purpose are generally made of relatively soft metal such as brass, the wearing qualities of which are approximately the same as those of the material composing the floor proper.

The strips should also preferably be formed with means for anchoring them in position in addition to laterally extending flanges or projections to be used both as a gauge and as a support for the strips when their lower portion is inserted through the foundation layer of the floor.

Terrazzo floorings are used not only on account of the relative ease with which they can be laid and their moderate cost, but also on account of their good wearing qualities and on account of the practically unlimited range of design and color combinations which may be produced.

However, the materials generally used in producing the upper layer of floorings of this character, are not of themselves suitable for producing anti-slip floors, and for this reason do not afford sufficient protection against accidents in public places, halls, etc.; and therefore it has become customary when laying floors for public buildings and halls to mix with the composition ordinarily used, some material such as alundum, or carborundum, or emery, or other materials possessing anti-slip properties, so that the floor itself will have a good frictional surface.

This is done, of course, in order to insure the safety of the people walking upon such floors and in order to comply with building regulations affecting such matters. However, floors thus produced although fairly effective in so far as their anti-slip properties are concerned, are not entirely satisfactory in practice due to various reasons.

To begin with the cost of the materials used is much greater than that of the materials used in ordinary floors, and the cost of laying and finishing the floors is also considerably higher. From the decorative standpoint these floors are also objectionable because their appearance is not as good as that obtained when only marble chips and cement are used, their texture being much darker, and also because they do not take nearly as high a polish as terrazzo floorings of the ordinary type do.

Floors of this character are also objectionable from a sanitary standpoint because they quickly collect and produce considerable quantities of dust which can only be removed in part and with considerable difficulty.

The primary object of this invention is to provide a new and improved method of producing anti-slip floors of the terrazzo type, whereby the objectionable features men-

tioned will be overcome and the appearance of the floor improved.

Another object is to provide a floor dividing strip of a new and improved type adapted to be laid in the usual manner, and adapted to act both as a dividing strip and as an anti-slip element, conferring anti-slip properties to the floor as a whole.

A further object is to provide a floor dividing strip of a novel and improved construction, composed of a body of anti-slip material and a holding structure therefor, adapted to fulfill the functions of a floor strip of the usual type.

Other objects and advantages of the present invention will more fully appear as the description proceeds and will be set forth and claimed in the appended claims.

A few embodiments of my invention are shown in the accompanying drawings which however, are intended for illustrative purposes only and not in a limiting sense.

Referring to said drawings:

Fig. 1 is a plan view of a floor illustrating the manner in which the strips are used;

Fig. 2 is a fragmentary view in perspective of a strip embodying my invention;

Figs. 3, 4, 5 and 6 are similar views illustrating other types of strips embodying my invention in different forms; and

Fig. 7 is a vertical cross section showing a strip embodying my invention in position and illustrating the function of the supporting and positioning means therefor.

As shown in Fig. 1, a terrazzo or similar floor 10 is usually composed of a number of panels 11, 12, systematically arranged according to a predetermined design defined by the dividing strips 13. In floors of the ordinary type, these strips are generally made of relatively light gauge metal, such as brass for instance, and are set on edge with their lower part embedded into the foundation layers of the floor and their upper edge on a level with the upper surface of the finishing layer.

As a general rule, the strips are also provided with suitable anchoring and positioning means, said positioning means being preferably adapted to strengthen the strip in a longitudinal sense.

It has been found necessary in practice to at times impart to these floors, the anti-slip properties that they usually lack, but as stated before, the methods heretofore adopted in this respect have resulted in some changes in the characteristics of the floors treated which have proved objectionable from several standpoints.

It is desirable, as stated, to produce anti-slip floors without detracting from their appearance and also without excessively increasing their cost. The retention of the normal appearance and physical structure of the floor is also desirable from a sanitation standpoint, because as stated, floors of the usual type are much more easily kept clean than floors containing abrasive or anti-slip materials in their compositions.

I have therefore conceived the idea of producing nonslip floors by using dividing strips of an anti-slip nature, without altering the character of the units or panels of which the floor is composed. In this manner, effective results may be obtained in spite of the fact that the floor units or panels per se, taken separately are just as slippery as those of a floor of the usual type.

In fact, it will be observed that the feet of a person who slips will travel a certain distance before the person actually falls, and that if during that distance some spot is encountered where the frictional resistance of the surface is sufficiently high the movement will be instantly stopped.

Due to the above described nature of terrazzo and similar floors, if the dividing strips are of an anti-slip character, they will effectively check all slipping tendencies due to the panel portions of the floor, and will do so throughout the entire surface of the floor. Their action in this respect will be more or less effective, according to the size of the panels delimited thereby, but it will be understood, of course, that when anti-slip floors have to be produced, it will be desirable to adopt designs calling for units or panels of relatively moderate dimensions.

I have accordingly produced a new type of strip, consisting essentially of a lower rib portion, which can be inserted in position through the foundation layer of the floor in the usual manner, and a head portion in the form of an open top channel adapted to receive and retain a filling of any suitable material possessing anti-slip properties. For instance, a filling of lead may be used, or an aggregate of lead and carborundum, or alundum or any other composition, the surface frictional resistance of which is sufficiently high.

Strips embodying my invention may be produced in a great variety of sections and designs, and a number of such designs are illustrated in the drawings. The strip illustrated in Fig. 2 for instance, may be produced by rolling or drawing or extrusion processes, and comprises an open top channel shaped head portion 14 and a rib portion 15 centrally depending therefrom.

The head portion comprises a bottom 16 and two upwardly directed sides 17, 18, said sides having preferably inwardly inclined inner surfaces, so as to form a dovetail shaped channel or housing 19, narrower at the top than at the bottom.

A filling or core 20 made of any suitable anti-slip material is inserted through or otherwise placed within channel or housing 19, said filling preferably having its upper

surface flush with the upper edges of sides 17, 18.

The rib portion, as usual, is preferably provided with supporting and positioning means, such as for instance, the laterally extending flange 21, the under surface of which is at a distance from the upper surface of the strip, equivalent to the thickness of the upper layer of the floor. This arrangement affords convenient means for quickly laying the strips in position, by inserting the lower part of the rib portion through the foundation layer of the floor after it has reached the desired consistency, to a depth where flange 21 reaches and is supported by said foundation layer.

This automatically establishes the proper depth or thickness of the finishing layer which is poured in position so as to reach the level of the upper surface of the strips, and also insures correct vertical alignment of the strips. Flange 21 furthermore, increases the rigidity of the strip by strengthening it in a longitudinal direction and permits the use of a relatively light section of metal through the rib portion. If desired, the strip may be formed with two lateral flanges instead of one, the additional flange being shown in dotted lines at 21'.

Practically the same type of strip may be produced out of sheet metal, as shown in Fig. 3, where it will be noted that the structure is formed out of an originally flat metal strip of sufficient width bent at the lower end 22, to form two adjoining upwardly directed sections 23, 24, forming the lower part of the rib portion of the strip. Section 23 continues upwardly up to a point 24' where it is bent outwardly and then laterally up to a point 25 where it is bent upwardly and inwardly to form side 26 of the channeled head portion. Section 24 when reaching a point 25' at a distance from the upper surface of the strip equivalent to the thickness or depth of the finishing layer of the floor, is bent outwardly to a point 26', forming the outer edge of the flange 27 and then once more inwardly to a point 28 adjoining the other section 23.

At this point, the section is once more bent upwardly to a point adjoining point 24 and then it is bent outwardly to a point 29 to complete the bottom portion of the channeled head and then upwardly and inwardly to form side 30 of said channeled head. The two sections of the rib portion of the strip are preferably joined together in any suitable manner, for instance, by means of spaced male and female riveted joints as shown at 31.

The resulting structure is the equivalent of the one previously described, inasmuch as the two sides 26, 30 of its head portion form like in the previous case, a dovetailed channel or housing 31 within which the anti-slip material may be placed and retained. The dovetailed section of the channel or housing is, of course, desirable in order to securely hold in position the anti-slip material at all times.

In Fig. 4, I illustrate a strip somewhat similar to that just described, which however, only comprises a channel head portion 32 retaining an anti-slip filling or core 33 and a rib portion 34 originally formed flat on both sides, without the flange previously described.

In this type of strip, the anchoring or positioning means are obtained directly from the rib portion by laterally offsetting the material composing the same at spaced intervals. For instance, in the type illustrated, the rib portion is longitudinally slit at a suitable distance from the top of the strip at intervals as shown at 35, 36, and the anchoring means are produced by laterally offsetting a certain portion of the material, extending downwardly from each slit so as to form cup like laterally extending portions 37, the outer surface of which is inclined downwardly and inwardly towards the strip from the point of maximum lateral extension.

These offset portions act at the same time to bind the two sections of which the rib portion is composed to each other, and due to their design they reinforce rather than weaken the section of the strip. This type of strip is somewhat less expensive than the one previously described, due to the saving of material effected by omitting the laterally extending flange.

A similar idea has also been employed in the strip shown in Fig. 5, comprising as before a channeled head portion 38 and a rib portion 39 where laterally extending lugs or ears 40 are formed at spaced intervals by punching out and laterally bending the material from the rib portion, as shown.

A still different construction of strip is shown in Fig. 6. In the same the strip comprises two side portions 41, 42, bent in the form of channel sections having outwardly directed web portions 43—44, 45—46, the upper web portions 43, 45, being further bent upwardly and inwardly to form sides 47, 48, of the channeled head portion. The sectional dimensions of said two strip portions are such that when the two sides 47, 48 of the head are at the proper distance from each other, the two ribs of the strip sections are separated by a clearance through which may be inserted a flat strip 49, projecting downwardly therefrom and forming the rib portion proper of the strip.

The three parts mentioned, composing the shell portion of the strip are joined together in any suitable manner, for instance, by means of longitudinally spaced rivets 50; and the resulting structure is a strip having as before, a head portion adapted to receive and retain a filling or core of anti-slip material, a lower rib portion adapted for insertion through the foundation layer of the

floor and two laterally extending flanges 44, 46, forming the supporting, positioning and anchoring means for the strip.

A strip of this character may be produced most economically, because it permits the use of a relatively inexpensive material for its rib portion. For ornamental and structural reasons, floor dividing strips are usually made of brass, but if a cheaper metal is used for its rib portion, a considerable saving in the cost of material may be effected.

The way in which the strip is used is illustrated in Fig. 7, where 51 designates the lower layer of the floor space on the floor foundation 52, 53 designates the upper or finishing layer, and 54 designates the strip which is of the type illustrated in Fig. 3. It will be observed that the lower surface of its laterally extending flange 55 rests directly on the upper surface of the lower layer of the floor, thus acting as supporting and positioning means for the strip.

It will also be observed that the upper edges of the two sides of the head portion of the strip of the upper surface of the core or filling 56 retained therebetween, are flush with the upper surface of the floor, so that the anti-slip properties of the core 56 are fully effective.

A strip of the character described, provides as stated, an effective and convenient means for producing anti-slip floors and furthermore it also affords means for producing new and effective decorative designs. This is especially due to the fact that by virtue of the difference in color between the metal out of which the strip proper is made, and the anti-slip filling or core, it is possible to produce effects which are entirely beyond the scope of strips of the ordinary design.

As stated, the inventive idea resides in the combination of a metallic strip and a runner, or core or filling or head, associated or integral therewith, providing the desired anti-slip properties. The invention is entirely independent of the particular manner in which the two parts of which the strip is composed are united or formed and the drawings will be understood as being intended for purposes of illustration only and not in a limiting sense.

I accordingly reserve myself the right to carry my invention into practice in all those ways and manners which may enter, fairly, into the scope of the appended claims.

I claim:

1. A divider strip for terrazzo floors or the like, built in unit form, comprising a relatively narrow long metal frame adapted to separate adjoining panels of a terrazzo or similar floor, said frame having an open top chamber and a filling therefor of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strip.

2. A divider strip for terrazzo floors or the like, built in unit form, comprising a relatively narrow long metal frame adapted to separate adjoining panels of a terrazzo or similar floor, said frame having an open top chamber running throughout the length thereof, and a filling therefor, of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strip.

3. A divider strip for terrazzo floors or the like, built in limit form comprising a head portion formed with an open top chamber adapted to receive and retain a filling material, and a relatively narrow rib portion depending therefrom, the upper surface of said filling material being substantially flush with the upper surface of said strip.

4. A divider strip for terrazzo floors or the like, comprising a head portion formed with an open top chamber, running throughout the length of the strip, a filling therefor of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strip, and a relatively narrow rib portion depending from said head portion.

5. A divider strip for terrazzo floors or the like, comprising a head portion formed with an open top chamber, running throughout the length of the strip, a filling therefor of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strip, a relatively narrow rib portion depending from said head portion, and anchoring means integral with said rib portion.

6. A divided strip for terrazzo floors or the like, comprising a head portion formed with an open top chamber, running throughout the length of the strip, a filling therefor of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strip, a relatively narrow rib portion depending from said head portion, and anchoring means integral with and laterally projecting from said rib portion.

7. A divider strip for terrazzo floors or the like, comprising a head portion, formed with an open top chamber having a dovetailed section, running throughout the length of the strip, a filling therefor, of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strip, and a relatively narrow rib portion depending from said head portion.

8. A divider strip for terrazzo floors or the like, comprising a head portion, formed with an open top chamber having a dovetailed section running throughout the length of the strip, a filling therefor, of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strip, a relatively narrow rib portion depending from said head portion, and anchoring

means integral with and laterally projecting from said rib portion.

9. A divider strip for terrazzo floors or the like, comprising a head portion, formed with an open top chamber having a dovetailed section running throughout the length of the strip, a filling therefor, of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strip, a relatively narrow rib portion depending from said head portion, and anchoring means integral with and laterally projecting from said rib portion.

10. A terrazzo or similar floor comprising a body of floor composition, and a plurality of relatively long, narrow strips dividing said floor into a plurality of units or panels in a predetermined arrangement, the upper part of said strips consisting of a metallic member having an open top chamber, and a filling therefor of anti-slip material, the upper surface of said filling being substantially level with the upper surface of said strips.

11. A terrazzo or similar floor comprising a body of floor composition having a comparatively slippery surface and including means for reducing the slippery character of the floor comprising strips for dividing said floor surface into comparatively small sections, said strips including anti-slip material substantially flush with the surface of the floor.

PASQUALE GALASSI.