Nov. 29, 1932. P. GALASSI 1,889,651

EXPANSION STRIP

Filed Dec. 11, 1929

Fig. 1.

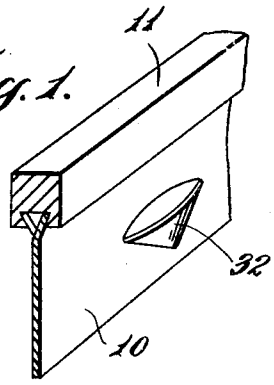


Fig. 2.

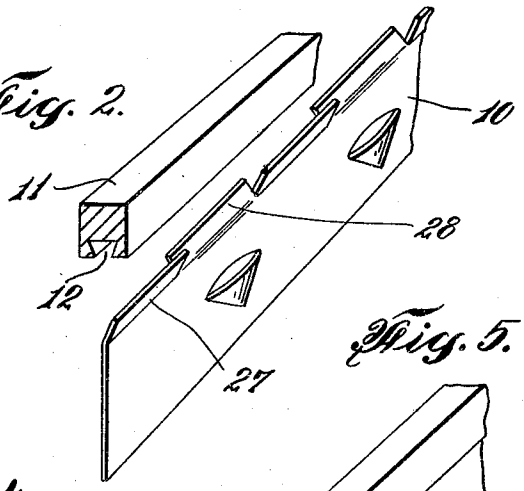


Fig. 5.

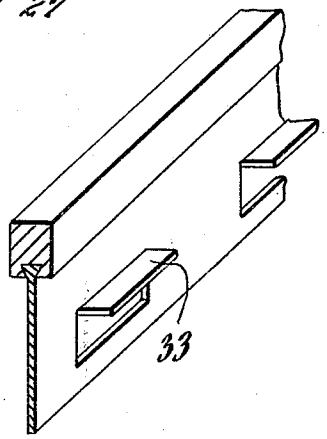


Fig. 3.

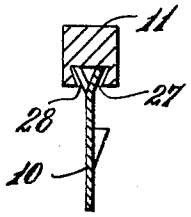


Fig. 4.

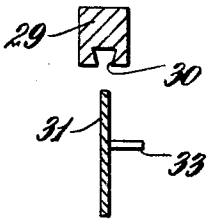


Fig. 6.

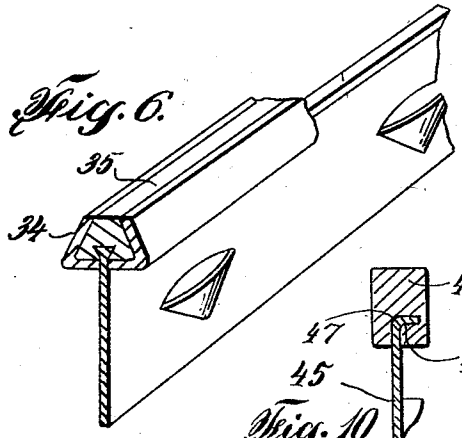


Fig. 8.

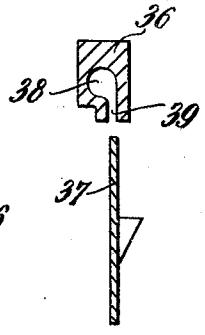


Fig. 7.

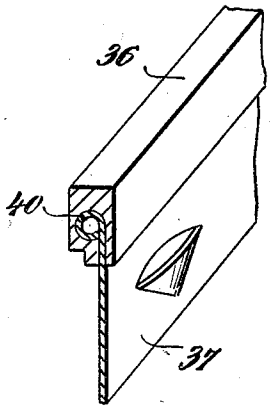


Fig. 10.

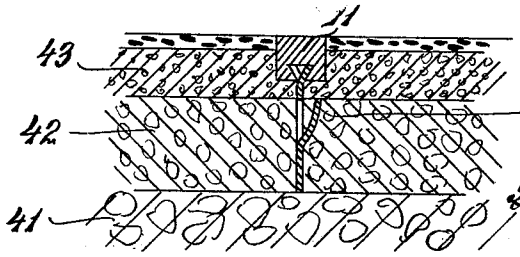


Fig. 9.

INVENTOR
Pasquale Galassi
BY
ATTORNEY

Patented Nov. 29, 1932

1,889,651

UNITED STATES PATENT OFFICE

PASQUALE GALASSI, OF NEW YORK, N. Y.

EXPANSION STRIP

Application filed December 11, 1929. Serial No. 413,270.

This invention relates to improvements in means for laying and constructing terrazzo and similar floors, and more particularly refers to dividing strips such as are used for defining and separating the various panel sections of which a terrazzo floor is composed.

Strips of this character have heretofore usually been made in one piece of the proper width and thickness according to requirements, said strips being generally provided with anchoring and positioning means formed by isolating portions of the material and by bending said isolated portions laterally of the strip.

These strips are generally made of brass or other suitable metal and are used in various thicknesses for ornamental or structural reasons or both. However, a heavy gauge metal is in most cases only used for ornamental reasons, and therefore a thick section of metal is actually only needed at the top where it shows through the floor. It is common practice, on the other hand, to use metal of uniform gauge all through, and this is likely to considerably increase the cost of the floor, especially when brass is used.

At times strips have been rolled in special shapes comprising a relatively wide head portion and a relatively thin body portion, but these special shapes are bound to be more expensive than standard materials of the same weight.

Furthermore, as a general rule it is desirable to use brass only at the top of the strip and to use a less expensive material for the body thereof even when light gauge strips are concerned, for, the resulting saving in the cost of material is sufficient to profitably compensate the increased labor costs entailed by the joining of the two portions into a single structure. The advantage thus resulting is, of course, greater in the case of strips having a relatively wide section at the top, as will be understood.

In three other patents entitled, "Composite flooring strip," "Interlocking floor strip," and "Dividing strips," Patent Nos. 1,718,041, 1,697,683 and 1,715,193 respectively, I have described and claimed bimetallic strips composed of two sections interlocking with each other by means of suitable male and female joints of various descriptions.

The present invention is also directed to improvements in bimetallic strips and its primary object is to provide dividing strips composed of two sections which may be made to interlock with each other simply by applying edgewise pressure against said two sections, the result being a strong and dependable joint, obtained at the cost of a relatively small amount of labor.

Another object of this invention is to provide a novel and improved arrangement of bimetallic strip composed of interlocking sections whereby the operation of joining the two sections together is simplified as compared with the structures described in my other patents above referred to.

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.

Various embodiments of my invention are illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary view in perspective of a strip embodying my invention;

Fig. 2 is a fragmentary view in perspective of the two sections composing said strip, before they are joined together;

Fig. 3 is a vertical cross section of said two sections placed in position ready for edgewise pressure to be applied;

Fig. 4 is an end view of two sections composing another strip also embodying my invention before they are joined together;

Fig. 5 is a fragmentary view in perspective of the resulting strip;

Fig. 6 is a fragmentary view in perspective of a strip obtained by the same method as that illustrated in Figs. 4 and 5, said strip comprising a bimetallic head;

Fig. 7 is a fragmentary view in perspective of another strip embodying my invention showing a different type of joint;

Fig. 8 is an end view of the two sections composing said strip before they are joined together;

Fig. 9 is a cross section of the strip shown in Fig. 1 in position; and

Fig. 10 is a cross section of another strip embodying my invention in a still different form.

The strip illustrated in Figs. 1 to 3 comprises a lower section 10, which is made of sheet metal and an upper section 11 which is made of bar stock drawn to shape. Said upper section is substantially rectangular in shape and is provided with a dove tailed longitudinal groove 12 along its lower surface. The lower section 10 is made out of a strip of sheet metal and is made by first slitting the same downwardly at spaced intervals from its upper edge a distance sufficient to isolate portions thereof, adapted to form retaining members such as 27, 28 connecting the lower to the upper section.

Said retaining members are obtained by first alternately bending to one side and then to the other of the body of the lower section, the portions isolated by the slitting operation mentioned, thus producing two series of spaced divergent lips such as shown at 27, 28, the transversal distance between the edges of the lips composing the two series being equal to or slightly less than the width of the opening of groove 12.

The two sections may be securely joined to each other by inserting the series of divergent lips 27, 28 within groove 12 as shown in Fig. 3, and then by applying edgewise pressure against the two sections of the strip. As a result of such pressure, the bottom of the groove abutting against the upper edge of lips 27, 28 will force said lips to spread outwardly against the sides of the dove tailed groove, as shown in Fig. 1, the two sections thus forming a rigid interlocking structure.

This method of joining the two sections together entails very little labor and therefore results in a rapid and relatively inexpensive production. It is obvious that upper sections of various widths can be used without altering the construction of the lower section.

Although as stated, I prefer to make the transversal distance between the edges of lips 27, 28 equal to or less than the width of the openings of groove 12, it is also possible to spread said two series of lips outwardly to a greater degree, and in such case the upper part of the lower section will have to be introduced within groove 12 endwise.

The subsequent application of edgewise pressure will also in this case cause further spreading of the lips and complete the joint. A similar method of joining sections of a strip may also be used without separating the upper edge of the lower section in order to form lips 27, 28, if sufficient pressure is applied to cause the metal to spread and fill the groove.

An example of such a construction is shown in Figs. 4 and 5 where the upper section 29 is provided like in the previous instance with a longitudinal dove tailed groove 30 running along its lower surface, the opening of said groove being just wide enough to receive the upper edge of the lower section 31. Also in this case after the upper edge of the lower section has been inserted within the groove edgewise pressure is applied against the two sections and the upper edge of the lower section will be deformed by the action of the pressure and compelled to spread out filling the groove.

In either case the lower section is preferably provided with anchoring and positioning means, such as for instance, the open top cup members 32 struck off the body of the strip as shown in Figs. 1 to 3, or the ears 33 shown in Figs. 4 and 5 bent laterally of the body of the lower section, or other anchoring and positioning means of any suitable character.

When the lower section is sufficiently heavy it is enough to insert its lower edge within a groove, the width of which corresponds to the thickness of said section, and to apply endwise pressure as described. However, if the lower section is of light gauge metal, it will be necessary to make the groove of a depth sufficient to receive the major portion of said lower section leaving exposed only its upper edge in order to prevent buckling. If this system is followed, the lower section will be inserted within the groove while in its flat condition, and the anchoring and positioning means will be formed after the two sections of the strip have been joined together.

In practice however, it may be preferable to form the anchoring and positioning means in the lower section before the joining operation is performed and in this case the major lower portion of the lower section may be held between two suitably formed clamping jaws, having recesses adapted to accommodate the parts projecting from said section, while the joining operation is performed.

In Fig. 6, I illustrate a strip somewhat similar to the one shown in Figs. 4 and 5, the difference being that the sides and bottom of the body 35 of the upper section are enveloped by a shield 34 made of a material different from that of said body, the upper edges of said shield being on a level with the upper edge of the body and therefore producing a two color effect therewith.

The shield is soldered or cemented or otherwise secured onto the body 35 in any suitable manner, and is preferably made of lead or other anti-slip material, so as to confer to the finished floor anti-slip properties in accordance with the invention described and claimed by me in another patent, entitled "Method of and means for producing anti-slip terrazzo floorings" granted to me January 7, 1930, Patent No. 1,742,855.

An alternative type of joint between the

two sections of the strip is shown in Figs. 7 and 8. The strip therein illustrated, comprises an upper section 36 and a lower section 37, section 36 being in the form of a drawn bar formed with a longitudinal circular opening 38, communicating with the lower surface of the bar by means of a tangential slot 39 the width of which is substantially equivalent to the thickness of the lower section.

When the upper edge of the lower section is inserted through slot 39 and edgewise pressure is applied to the two sections, said upper edge is compelled to curve over, forming a bead 40 completely filling the opening 38 and securely retaining the lower section in position.

Also in this case the lower edge only or the major lower portion of the lower section may be inserted in a groove or clamped between two clamping jaws while the joining operation is performed, according to the gauge of the metal employed.

The strip illustrated in Fig. 1 is shown in position in Fig. 9 where 41 designates the floor foundation, 42 the lower layer or bed of the terrazzo floor and 43 the upper layer. It will be observed that the upper edge of the strip is on a level with the floor surface and that the cup members 32 act as anchoring means for the strip by becoming embedded in the floor composition, and also act as positioning means, their upper edges determining the line of division between the lower and the upper layer.

In Fig. 10 I illustrate a strip which is somewhat similar to that shown in Figs. 7 and 8 in this respect, that the upper edge of the lower section is compelled to follow the outline of a groove provided in the upper section by an operation similar to that described in connection with the strip of Figs. 7 and 8. In the same 44 designates the upper section and 45 the lower section, the upper section being formed with a groove 46 the width of which corresponds to the thickness of the lower section, said groove being directed upwardly and then being curved to one side. When the upper edge of the lower section is inserted through said groove and endwise pressure is exerted upon the two sections, said upper edge will be forced to follow the outline of the groove and will therefore form a laterally extending lip 47, registering with said groove and securely joining the two sections together.

From the foregoing it will be seen that the two sections of the strip may be joined by means of a comparatively simple operation which may be rapidly and cheaply performed. The joints obtained are positive and efficient; furthermore, the strip also affords the possibility of using two metals for its manufacture, the upper section being made of brass or other metal selected for its wearing qualities and appearance and the lower section being made of steel or other metal selected on the basis of its strength and relatively low cost.

The various constructions illustrated are intended for illustrative purposes only and not in a limiting sense, since obviously their details may vary from those shown without departing from the inventive idea; I accordingly reserve 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 floor strip of the character described, comprising an upper and a lower longitudinal section, one of said sections being provided along its inner edge with a continuous dovetailed groove, and the other section having its inner edge slit at spaced intervals to form a series of adjoining lips, said lips being alternately bent to one side and then to the other of said section to form a Y-structure, said lips being inserted within said groove and abutting against the sides thereof.

2. A floor strip of the character described, comprising an upper and a lower longitudinal section, the upper section being provided along its inner edge with a continuous dovetailed groove, and the lower section having its inner edge slit at spaced intervals to form a series of adjoining lips, said lips being alternately bent to one side and then to the other of said section to form a Y-structure, said lips being inserted within said groove and abutting against the sides thereof, and anchoring means integral with said lower section.

3. A floor strip of the character described, comprising an upper and a lower longitudinal section, the upper section being provided along its inner edge with a continuous dovetailed groove, and the lower section having its inner edge slit at spaced intervals to form a series of adjoining lips, said lips being alternately bent to one side and then to the other of said section to form a Y-structure, said lips being inserted within said groove and abutting against the sides thereof, and anchoring means integral with said lower section, said anchoring means acting also as positioning means for said strip.

PASQUALE GALASSI.