United States Patent [19]

Casano

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[54] **TILE-SPACING CONSTRUCTION**

[76] Inventor: **Frank V. Casano,** 63 Debora Drive, Plainview, N.Y. 11803

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[52] **U.S. Cl.** **52/390,** 52/668, 52/604, 52/677

[51] **Int. Cl.** **E04f 13/08**

[58] **Field of Search** 52/390–392, 509, 52/442, 604, 668, 677

[56] **References Cited**

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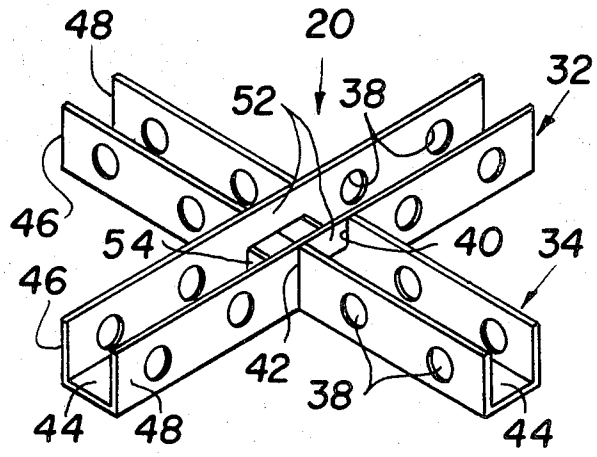
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Primary Examiner—Alfred C. Perham
Attorney—Bauer & Amer

[57] **ABSTRACT**

A member having utility in establishing uniform spacing in the layout of a tile arrangement, which member is so constructed that plural tile-spacing shapes can be made therefrom, when used along or in combination with a like member.

1 Claim, 11 Drawing Figures



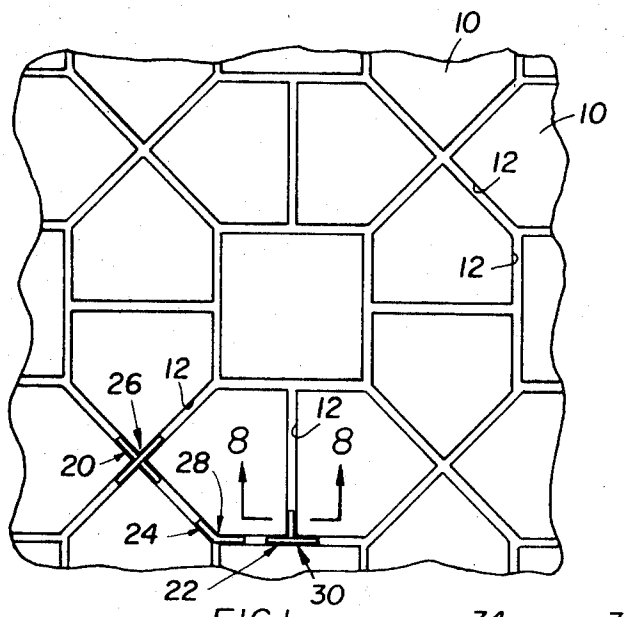


FIG. 1

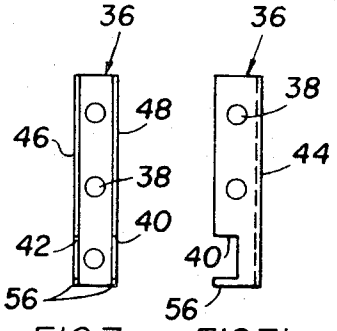


FIG. 7a FIG. 7b

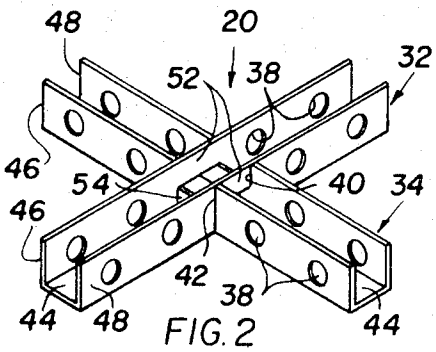


FIG. 2

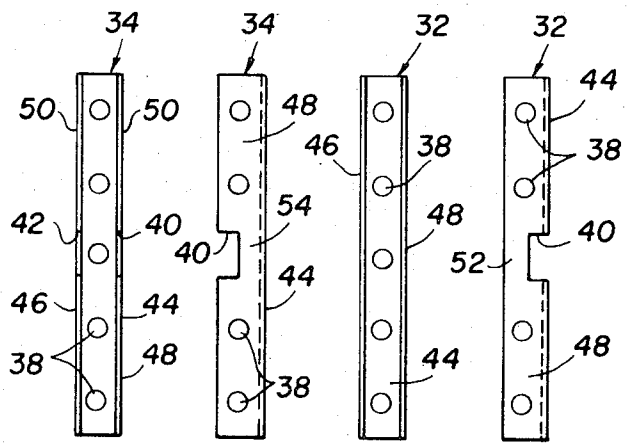


FIG. 5a FIG. 5b FIG. 6a FIG. 6b

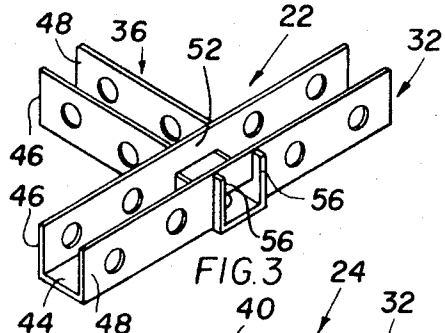


FIG. 3

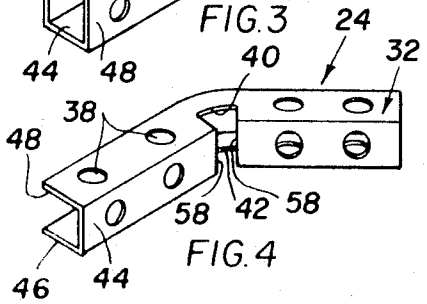


FIG. 4

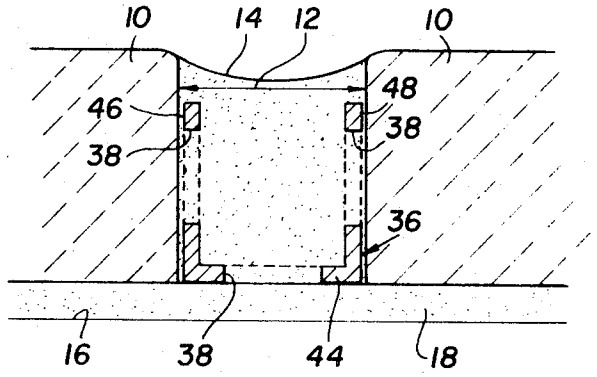


FIG. 8

TILE-SPACING CONSTRUCTION

The present invention relates to tile layout guides or spacing devices, and more particularly to a tile-spacing construction member with a capability of providing numerous tile-spacing shapes which, in turn, can be used to facilitate the layout of a wide range of tile arrangements.

Tile arrangements can employ square, rectangular, and triangular tiles, all in various relationships, and will therefor require spacing devices in corresponding various shapes in order to maintain uniform sized grooves for the grout subsequently placed in these grooves. In addition to flexibility in shape, the spacing devices should, in the interest of convenience, be able to be left in their operative positions maintaining the spacing during application of the grout. With known spacing devices, however, there is a tendency of the grout to lift these devices into a position protruding above the tiles. Successful counteracting of this tendency automatically dictates use of inexpensive spacing devices since there will only be one-time use of the same, yet these spacers must also be sufficiently versatile to provide the requisite number of different tile-spacing shapes to be used in a wide range of tile arrangements and heretofore said versatility could not be achieved with an economically mass-produced construction.

Broadly, it is an object of the present invention to provide an improved tile-spacing member overcoming the foregoing and other shortcomings of the prior art. Specifically, it is an object to provide an economically produced spacing member, out of which the noted plural tile-spacing shapes are readily produced.

A tile-spacing construction member demonstrating objects and advantages of the present invention includes an elongated, U-shaped body, of a width that provides the requisite size to the grout groove when placed between adjacent tiles. By strategic location of connecting notches on these uniform shaped bodies, the same may be bent or interconnected with each other to provide an ample variety of tile-spacing shapes.

The above brief description, as well as further objects, features and advantages of the present invention, will be more fully appreciated by reference to the following detailed description of a presently preferred, but nonetheless illustrative embodiment in accordance with the present invention, when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a plan view of a typical tile arrangement illustrating the operative position of the tile-spacing constructions hereof in exemplary tile-spacing shapes according to the present invention;

FIG. 2 is a perspective view, on an enlarged scale, of the tile-spacing construction members hereof in a cross-shaped geometrical figure or shape;

FIG. 3 is a perspective view, similar to FIG. 2, but illustrating said members, in modified form, in a T-shaped geometrical figure or shape;

FIG. 4 is a perspective view, in the same enlarged scale as FIGS. 2 and 3, illustrating the tile-spacing construction member hereof in a curved shape;

FIG. 5*a* is an isolated plan view of a tile-spacing construction member;

FIG. 5*b* is a side view projected from FIG. 5*a* illustrating the location of aligned connecting notches of said member;

FIG. 6*a*, like FIG. 5*a*, is a plan view of a tile-spacing construction member hereof having a different location for its connecting notch;

FIG. 6*b* is a side elevational view projected from FIG. 6*a* illustrating said location of said connecting notch;

FIGS. 7*a* and 7*b* are respectively plan and side elevational views of a tile-spacing construction member which has been cut to a reduced length which contributes to providing the geometrical shape of FIG. 3; and

FIG. 8 is a side elevational view, on an enlarged scale, in section taken on line 8—8 of FIG. 1 illustrating the operative position of the tile-spacing construction hereof in the body of the grout or adhesive which secures the tiles in place.

Reference is now made to the drawings, and in particular to FIG. 1 wherein there is shown an arrangement of tiles, individually and collectively designated 10, which in a typical arrangement are of the various shapes illustrated to contribute to an enhanced overall appearance in the arrangement. As generally understood, in the formation of the tile arrangement, the individual tiles 10 are placed in adjacent position to each other with grooves 12 left therebetween and subsequently are filled with grout or other such adhesive substance 14, all as is more specifically illustrated in FIGS. 1 and 8. As is further generally understood, a typical construction of a tile arrangement on a support surface 16 contemplates the application of an adhesive coat 18 over the support surface 16 and the successive placement of the tiles 10, usually one at a time, into adhesive contact with the adhesive coat 18 until the desired tile arrangement is completed. The foregoing procedure is facilitated by use of a cross-shaped geometrical FIG. 20 as shown in FIG. 2, a T-shaped geometrical FIG. 22 as shown in FIG. 3, and a curved shape 24 as shown in FIG. 4, as tile-spacing constructions adjacent corresponding tile shapes to provide uniform grooves 12 or spaces between the tiles 10 which subsequently are filled with grout 14.

In practice, it has been found that the three shapes 20, 22 and 24 of FIGS. 2–4, inclusive, are adequate to maintain the proper spacing between the shapes of tile commonly encountered in a typical tile arrangement. Thus, as illustrated in FIG. 1, an intersection 26 of four corners of the tiles 10 is properly spaced or serviced by a cross-shape 20, obtuse tile angle 28 by a curved shape 24, and an intersection 30 of two tile corners with the side of the third tile by the T-shape 22. An important contribution of the present invention is the provision of substantially uniform individual tile-spacing construction members 32 and 34 (see in particular FIGS. 5*a*, 5*b*, 6*a* and 6*b*) which are so constructed that each is readily adapted to be formed into said curved shape 24, and also to be placed into an interconnected relation forming said cross-shape 20, and after slight modification of member 24 into a short version 36 (see FIGS. 3, 7a and 7b) into said T-shape 22.

In accordance with the present invention, each of the members 32 and 34 are advantageously fabricated from a metal strip of aluminum or other appropriate bendable material. While the strip is in the flat, it is further advantageously die cut or otherwise appropriately provided with spaced openings 38 therealong, the function of which will soon be explained. The subsequent manufacturing steps need not occur in the order mentioned, but will include, for member 34, the provision of peripheral notches 40 and 42, which notches are in

transverse alignment and each are of the same width which, in turn, is approximately the width of the member in its ultimate U-shaped configuration. That is, member **34** is ultimately delineated into three, approximately equal, sections bent or otherwise formed into a U-shaped configuration in cross section in which there is formed a base **44** and opposing sides **46** and **48.** As best illustrated in FIGS. **5***a* and **5***b*, the notches **40** and **42** originate in the upper edges **50** of the opposing side walls **46** and **48** and extend from these edges to approximately the medial portion of each of these side walls.

The tile-spacing construction member **32** has all of the significant structural features just described in connection with member **34,** these features being designated by the same reference numerals. The only significant difference between member **32** and **34** is the location of the notches **40** and **42.** Specifically, these notches in member **52** originate in the base **44** and extend therefrom to approximately the medial portion of each of the side walls **48** and **46.** Thus, assuming the same orientation for the members **34** and **32,** the notches **40** and **42** in the member **34** face in one direction and in the member **32** in the opposite direction. As a consequence, the facing pairs of notches **40** and **42** of the members **32** and **34** are adapted to interfit with each other, as illustrated in FIG. **2,** thereby providing the cross-shape **20** illustrated in this figure. Specifically, in the cross-shape **20,** the remaining side wall portions which bound the notches **40, 42** of member **32,** specifically designated **52** in FIG. **2,** straddle the notches **40, 42** of member **34,** while the corresponding wall structure on member **34,** designated **54,** straddles the notches **40, 42** of member **32.** As already noted, the width of the notches **40, 42** are approximately equal to the width of the base **44** of each of the members **32** and **34,** so that the notches **40** and **42** of the respective members snap together in a slight friction fit.

In forming the T-shape **22** of FIG. **3,** use is made of the construction member **32,** as already described, but in the slightly modified version as designated **36** in FIG. **3.** Specifically, the modification consists of shortening the length of the U-shaped body of member **36** so that the connecting notches **40** and **42** thereof are located adjacent an end thereof, rather than in the medial portion. As a consequence, only one arm of significant length on the member **36** extends in a radial direction beyond the intersection of the connecting notches **40** and **42** while greatly shortened wall portions **56** on the member **32** exist on the opposite side thereof.

The remaining exemplary shape, namely the curved shape **24** of FIG. **4,** can readily be formed from either one of the members **32** or **34,** the member **32** being selected for illustration in FIG. **4.** In practice, the tile-spacing shape **24** is positioned on a side wall **46** rather than on its base **44.** Additionally, member **32** is bent from its straight shape into the curved shape **24** in the direction which is permitted by virtue of the bending clearance provided by the connecting notches **40** and **42.** In other words, in the formation of the curved shape **24,** the removed material represented by the notches **40** and **42** provides the necessary clearance for movement of the edges **58,** which bound the notches, into adjacent position to thereby form the curved shape in the member **32.**

As already noted, the fabrication of the tile-spacing construction members **32** and **34,** and including the modified version **36,** is greatly facilitated by the fact that the material of construction is bendable. Such material, however, is also lightweight, and there therefore is a tendency in these tile-spacing construction members to exhibit a buoyancy which could interfere with their proper use during the formation or arrangement of the tiles **10.** This is more particularly illustrated in FIG. **8** wherein the operative position of the tile-spacing construction member **36** is illustrated in an interposed position between adjacent tiles **10** so as to provide a groove therebetween for grout or adhesive material **14.**

In practice, the grout **14** is placed within the groove **12,** thereby filling the compartment bounded by the base **44** and opposing side walls **46** and **48.** Following this initial placement of the grout **14,** there is some separation, and thus corresponding movement within the body of the grout **14,** of the various ingredients thereof of different weights. Thus, the heavier constituents of the grout **14** gravitate to the bottom of the groove **12** while the lighter constituents, including water, rise to the upper surface. It is particularly this rising movement of the water or lighter constituents which could have a tendency to correspondingly raise the tile-spacing construction member **36** into an elevated position in which the upper portions of the side walls **46** and **48** project above the upper surface of the grout **14.** The foregoing tendency or undesirable buoyancy of the tile-spacing construction member **36** is, however, obviated for all practical purposes, by the provision of the flow-through or seepage openings **38** which are provided at spaced intervals in the base **44** and also in the side walls **46** and **48.** It has been found that these openings **38** relieve the pressures within the body of the grout **14** which have a tendency to lift the tile-spacing construction member, whether it is the shortened version **36,** or either of the elongated versions **32** and **34.**

A latitude of modification, change and substitution is intended in the foregoing disclosure, and in some instances some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

What is claimed is:

1. In combination, a support surface having an arrangement of tiles thereon, said adjacent tiles of said arrangement each bounding elongated grout-receiving recesses therebetween, and separated, plural tile-spacing constructions having operative positions in said grout-receiving recesses so as to provide a uniform width to said recesses, each said tile-spaced construction comprising a cooperating pair of tile-spacing members having connecting structure on each for forming selected tile-spacing shapes, each said member having an elongated body of U-shaped configuration in cross-section defined by a base and opposing side walls, said connecting structure on one said member consisting of aligned notches formed in said side walls originating in the upper edges thereof and terminating approximately in the medial portion thereof to define openings facing in one direction, said connecting structure on the other said member consisting of aligned notches formed in said side walls originating in the base and terminating approximately in the medial portion thereof to define openings facing in an opposite direction, the interfitting of said openings facing in opposite directions within each other being effective to form tile-spacing shapes

of said cooperating members, and spaced openings in said base and side walls of each said member through grout placed in a recess flows into adhering contact with the areas of said tiles and said support surface bounding said recess, whereby said grout is effective to hold said arrangement of tiles in place on said support surface without removal of said tile-spacing constructions.

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