

- [54] **THREE DIMENSIONAL MIRROR TILE**  
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[73] Assignee: **New Age Mirror and Tile Industries, Inc.**, Newark, N.J.  
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- [52] **U.S. Cl.**..... **350/299, 350/97, 350/288, 404/13, 116/63**  
[51] **Int. Cl.**..... **G02b 5/08**  
[58] **Field of Search**..... **350/97-109, 350/288, 299, 303, 304; 404/12-14; 116/63**

[56] **References Cited**

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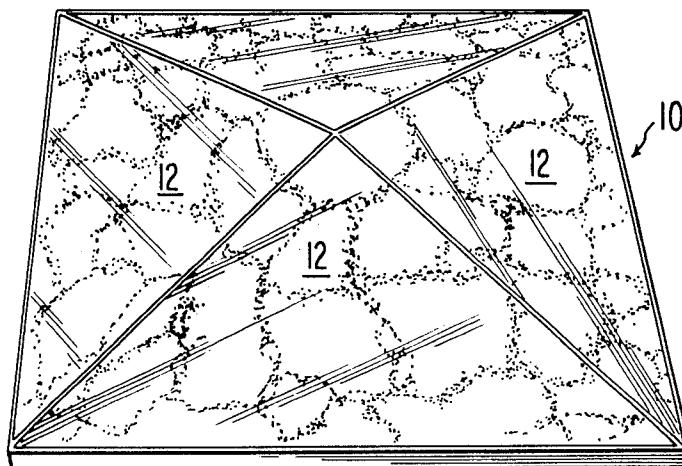
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[57] **ABSTRACT**

A three-dimensional mirror tile is disclosed in which

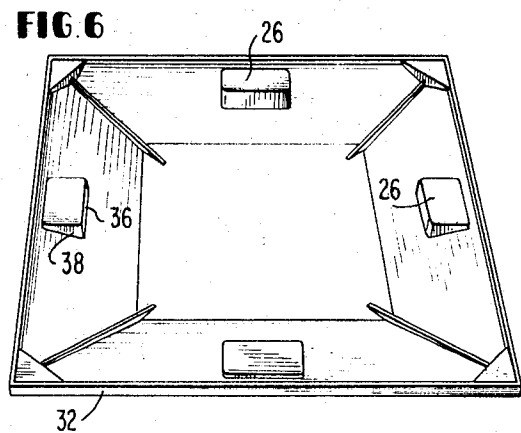
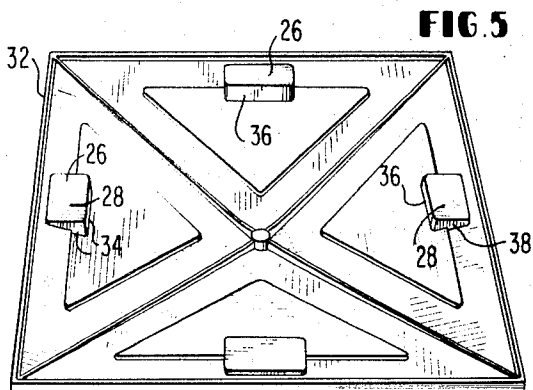
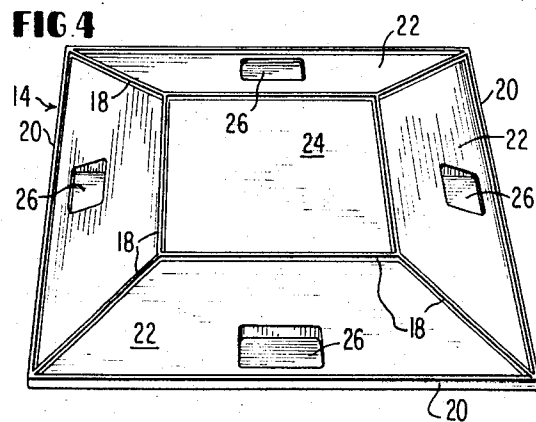
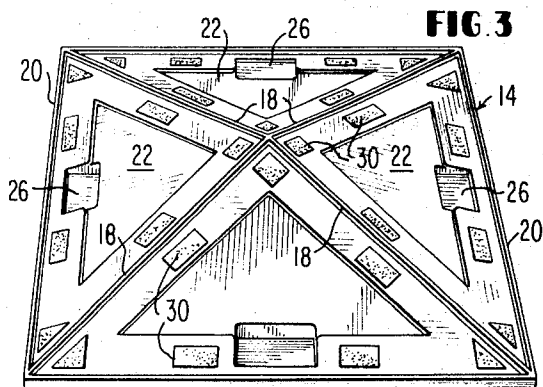
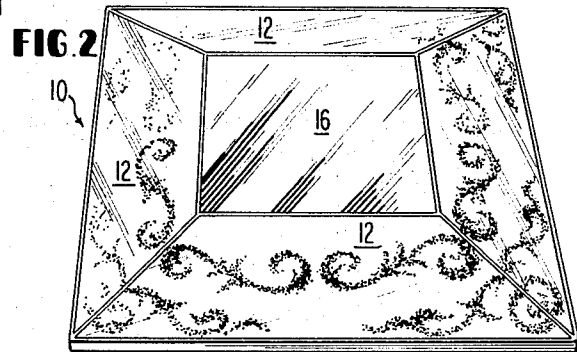
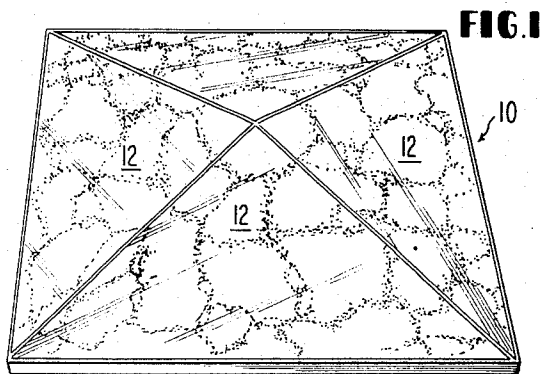
mirror segments are supported by a pyramid-like base which is attachable to a wall or similar flat surface. The periphery of the base is defined by an equilateral polygon having an equal number of sides  $N$  where  $N$  is a number equal to 3 or greater. In a preferred embodiment,  $N$  is equal to 4 and, therefore, the base has the form of a conventional pyramid. Alternatively, the tile and base may assume the shape of a frustum or truncated pyramid, in which case an additional mirror segment may be received on the top of said frustum. In the frustum embodiment, the plane of the frustum mirror segment is parallel with the plane defined by the periphery of the base support. At least two of the flat, planar side surfaces include an L-shaped indentation or recess, a portion of which lies substantially in the plane defined by the periphery of the base. This portion forms a pad or foot section located on the back side of said recess and is adapted to receive an adhesive for ready attachment to a wall surface. Additionally, a nail, staple, or similar fastener may be driven through the flat pad and into the wall support. In a preferred embodiment the mirror segments are attached to the base support by an adhesive, preferably double-backed adhesive tape. During installation, the base section may be first nailed to the wall and then the mirror segments attached to the base or, alternatively, the mirror segments can be first attached to the base and then the base may be adhesively bonded to the wall surface.

**4 Claims, 8 Drawing Figures**



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**THREE DIMENSIONAL MIRROR TILE****BACKGROUND OF THE INVENTION****1. Field of the Invention.**

This invention relates to wall tiles in general and, in particular, to a three-dimensional, mirrored wall tile which may be readily attached to a wall surface by conventional means.

**2. Description of the Prior Art.**

In general, the manufacture of mirrored tile is known in the art. Benjamin U.S. Pat. No. 753,842 discloses a support for tiles and the like that also may be employed for receiving mirrored surfaces. A tile such as that disclosed by Benjamin, however, is relatively undesirable because it is hard to attach to walls and is difficult and expensive to manufacture. Another type of pertinent prior art tile is that disclosed by Conley U.S. Pat. No. 3,068,956 in which alternate surfaces of a pyramid are selectively covered by either a sound-absorbing or light-reflecting material. Similarly, such a tile does not include a means for easy and quick attachment to a wall surface.

The manufacture of a tile unit in the shape of a truncated pyramid or a frustrum is disclosed by Slechte U.S. Design Pat. No. 119,442. A similar shape is disclosed by Marini U.S. Pat. No. 3,000,134. However, the use of a frustrum-like support for a mirror tile does not appear to be disclosed in the prior art. One advantage of such a tile is that it is both decorative and utilitarian at the same time. That is, the top surface of the frustrum will give a true reflection of an object in front of it while the side sections of the mirrored frustrum are decorative as well as being reflective, thereby increasing the apparent illumination of a room.

**SUMMARY OF THE INVENTION**

This invention envisages the manufacture of three-dimensional mirror tiles and their base supports. The base support is preferably a plastic, pyramid-like structure having a periphery the shape of an equilateral polygon. The pyramid-like base support includes a plurality of flat, planar side surfaces adapted to receive mirrored segments. In the case of a pyramid structure with a square base, the base support would have four side surfaces. The side surfaces are separated one from another by means of ridge-like ribs at the intersection of each surface one with the other. In addition, a rib circumscribes the periphery of the base and, together with the other ribs, defines pockets into which the mirror segments may be adhesively received. Preferably, the mirror segments may be held in place by double-backed adhesive but, clearly, any type of suitable adhesive may be used instead. An L-shaped indentation or recess is located in at least two of the side surfaces. At least one of the sides of the L-shaped indentation is a flat surface or pad lying substantially in the plane defined by the periphery of the base support. The base support is preferably attached to a wall either by means of adhesive attached to the foot-like pads on the bottom of said recess or by means of a nail, staple, or similar fastener driven through the pad portion of the recess.

In another embodiment, the base and tile assume the shape of a truncated pyramid or frustrum in which case an additional mirror segment may be received on the top of the frustrum.

It is therefore an object of the present invention to manufacture an inexpensive three-dimensional mirror tile which may be readily attached to a wall by conventional means.

It is another object of the present invention to provide a base support which will readily receive mirror segments or similar reflective surfaces.

It is a further object of the present invention to produce a mirror tile base support from an integral piece of molded plastic.

It is a still further object of the present invention to provide a three-dimensional mirror tile support which includes a plurality of integrally molded pads or feet on the back side of base support wherein said tile may be readily attached to a wall by means of either adhesive applied to the pads or a nail or staple driven there-through.

These and other objects and advantages of the invention will be more fully understood upon a reading of the following specification taken in view of the attached drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is an elevated perspective view of a three-dimensional mirror tile according to this invention with mirror segments in situ;

FIG. 2 is a perspective view of another three-dimensional mirror tile having the form of a truncated pyramid or frustrum;

FIG. 3 is a perspective view of the mirror tile of FIG. 1 with mirror segments removed;

FIG. 4 is a perspective view of the mirror tile illustrated in FIG. 2 with the mirror segments removed;

FIG. 5 is a perspective view of the base support illustrated in FIG. 3 as seen from below;

FIG. 6 is a perspective view of the base support illustrated in FIG. 4 as seen from below;

FIG. 7a is a partial cross-sectional view of the base support illustrated in FIG. 3; and

FIG. 7b is a partial cross-sectional view of the base support illustrated in FIG. 4.

**DETAILED DESCRIPTION**

The following is a detailed description of the invention wherein like numerals refer to like elements in the drawings.

The three-dimensional mirror tile 10 of the present invention includes a plurality of side mirror segments 12 and a support base 14 for receiving those segments. In FIG. 1 an embodiment is disclosed in which the mirror tile assumes the shape of a regular pyramid with four sides. However, it should be understood that the scope of this invention is not restricted to a pyramid with only four sides but may include any pyramid-like structure with three sides or more; for instance, a pyramid-like structure with a pentagon or octagon-shaped base and having five or eight sides respectively.

A mirror tile formed on a frustrum or truncated pyramid-like base is illustrated in FIG. 2. This particular design allows an upper, top segment of mirror 16 to be attached to the base 14. In general, the plane of mirror 16 is parallel to the plane of the periphery 32 of the base 14.

FIGS. 3 and 4 show identical perspectives of FIGS. 1 and 2, respectively, in which the mirror segments 12 and 16 have been removed. Both FIGS. 3 and 4 illustrate a series of ridges 18 and 20 which define cavities

or pockets in which mirror segments 12 and 16 may be received. Ridges 18 are located at the intersection of the planar sides 22 and at the intersection of the top side surface 24 with the planes defined by the flat sides 22 as illustrated in FIG. 4. Additionally, a ridge 20 circumscribes the periphery of base 14. Also shown in FIGS. 3 and 4 are a plurality of L-shaped indentations or recesses 26 in side panels 22. Indentations 26 include a flat portion or pad 28 which lies substantially in the plane defined by the periphery 32 of the base 14. Pad 28 is an integrally molded part of the base and is intended to form a point of attachment for adhesives, nails, or staples, etc. It should be noted that when mirror segments 12 are in place the L-shaped recesses 26 are hidden from view. A more complete discussion of the structure of the recesses 26 will be taken up in reference to FIGS. 7a and 7b later. Base support 14 is also shown to include a plurality of double-backed adhesive tape sections 30. Double-backed tape has been found to be especially useful for this particular type of mirror application. Nevertheless, it should be understood that many other types of adhesives such as simple liquid adhesive may be employed.

FIGS. 5 and 6 illustrate bottom perspective views of the base support 14 seen in FIGS. 3 and 4, respectively. It is clear from those views that the interiors of both bases 14 are hollow and integrally molded from a continuous piece of plastic. It is also evident that the L-shaped indentations 26 are located close to the edge of the base periphery 32. FIGS. 7a and 7b illustrate a more detailed cross-sectional view of a selected indentation as shown in FIGS. 3 and 4, respectively. This close-up view shows in detail the construction of the indentation 26 to include flat pad portion 28 and perpendicular thereto a plurality of side walls 34. Side walls 34 include a pair of triangular side walls 38 and a square back side wall 36. L-shaped indentation 26 is so named because the plane of pad 28 is perpendicular to the plane of back side wall 36.

It will be appreciated from FIGS. 5, 6, 7a and 7b that the plane of pad portion 28 of indentation 26 lies substantially in the plane defined by the periphery 32 of base 14. This relationship allows the pad section to come in virtual or actual contact with a wall during the process of attaching a tile thereto. During the course of this disclosure, it should be understood, however, that the term "wall" may, of course, include such planar surfaces as ceilings or floors or the like. Since pad portions 28 come into actual or virtual contact with the wall, it is possible to attach adhesive thereto for the purpose of joining the tile to the surface. Alternatively, nails, staples, or similar rigid fasteners may be used to affix this tile to desired planar surfaces.

While a preferred embodiment of the invention has been disclosed it will be appreciated by those of ordinary skill in the art that certain modifications and alterations are within the scope of the invention. For instance, while a four-sided, pyramid structure has been illustrated it would be obvious to one of ordinary skill in the art to make a similar pyramid-like structure with a greater or lesser number of sides. The term "pyramid-like" in the context of this disclosure is not meant to refer solely to a four-sided pyramid but refers to any three-dimensional structure with a pyramid-like shape. Moreover, while the material for the construction of base 14 is disclosed as being plastic, it will be appreciated that other material may be suitable therefor. One

major advantage of plastic is that it is relatively inexpensive and convenient to work with. Additionally, the size and shape of the L-shaped indentations 26 may be altered to suit the particular application. However, it will be appreciated that it may not be desirable to make the flat pad portion 28 too large for a variety of reasons. By keeping the recesses 26 relatively small, it is possible to minimize the use of plastic materials. Also, if recess 26 is too large, it subtracts from the side surface 22 available for attaching adhesive to the mirror segments 12. Conversely, it will also be appreciated that recess 26 should not be too small. The fastening area on pad 28 should be sufficiently large enough to permit adequate adhesive bonding. Therefore, the size of recess 26 may vary according to the particular fastening mode employed and the particular wall surface contemplated. The number of recesses 26 in side surfaces 22 is in part a function of the degree of adhesive security desired. While a base has been shown in which each side surface 22 includes a recess 26, it should be understood that a recess in each side is not always necessary. For instance, a recess in opposite sides may be all that is required for successful attachment to a wall and, therefore, some sides may be manufactured without recesses. Likewise, in some applications it may be desirable to have more than one recess per side wall. However, in actual practice it is deemed desirable to have at least two recesses suitable for wall attachment. The use of at least two recesses insures against lateral movement of the tile.

It will also be understood that the base shown in FIGS. 3 and 5 includes an unnumbered triangular indentation in each side surface 22. This indentation is, in part, a product of the particular molding operation employed and is, therefore, non-functional. For all practical purposes, side surface 22 is considered to be flat.

When attaching the tile to a wall it will be appreciated that there are two possible modes of attachment. If adhesive is used, it is possible to attach the mirror tile directly to the wall with the mirror segments already in place. However, if the wall tile is to be connected to a wall by means of a nail, staple, or similar fastener, then it is necessary that the base support 14 first be fastened to the wall and that the mirror segments 12 be subsequently inserted.

In a general manner, while there have been disclosed effective and efficient embodiments of the invention, it should be well understood that the invention is not limited to such embodiments as there may be changes made in the arrangement, disposition, and form of the parts without departing from the principle of the present invention as comprehended within the scope of the accompanying claims.

I claim:

1. A decorative three-dimensional mirror tile apparatus comprising:

four side mirror segments, each side segment including a base edge and a pair of convergingly directed side edges;

a molded plastic, pyramid-shaped base including four substantially flat side surfaces and a base periphery in the form of a square;

ridge means located at the intersection of said side surfaces and also located at the periphery of said base, said ridge means completely circumscribing said side surfaces and thereby forming pockets into

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which said side mirror segments may be directly placed;  
 an adhesive means for securing said mirror segments to the side surface of each pocket, said adhesive means forming the sole attachment between said mirror and said base;  
 at least two L-shaped recesses located in at least two of said side surfaces, said L-shaped recesses being located adjacent to said peripheral base ridge means and intermediate the ridge means located at the intersection of said side surfaces, the location of said recess being such that said recess is completely covered by said side mirror segments when said segments are in place in said side pockets, said L-shaped recesses further including a flat pad portion lying substantially in the plane defined by the periphery of said base; and

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fastening means for attaching the flat pad portion of said L-shaped recesses to a substantially flat surface.

2. The apparatus of claim 1 wherein said base is in the form of a frustrum, said base including an upper top surface parallel to the place defined by said square base periphery, said ridge means circumscribing said upper top surface and forming a pocket therein adapted to receive a square mirror segment.

3. The apparatus of claim 1 wherein said adhesive means comprises tape having adhesive on both sides thereof.

4. The apparatus of claim 1 wherein said fastening means comprises tape having adhesive on both sides thereof.

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