Fig. 4

Fig. 5

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ABSTRACT OF THE DISCLOSURE

A mounting for tiles consisting of a frame on which a tile is fitted, the frame having a plurality of upstanding guide walls against which edges of a tile are fitted, the frame having edge recesses located below the walls, and the frame has other edges formed with projecting lugs complementary to the recesses so that when a number of the frames are placed together in side-by-side relation, the lugs on some of the frames will fit into the recesses provided on neighboring frames.

The present invention relates to a means for fastening tiles, and particularly glazed tiles to a base. The invention contemplates using a fixture for each tile.

It is previously known, as is indicated by U.S. Pat. No. 2,072,274, to use a metal screen in order to keep a plurality of tiles in an exact position. With such an arrangement when a tile is to be fastened, the tile is guided by the screen to a definite position and is kept in this position by the screen until a bonding agent or cement material has fastened the tile to the base. Such a screen has the objection that it cannot compensate for variations in the outer dimensions of the tiles.

The present invention has for its main object to provide a simple method for fastening tiles to a base and which involves the use of a fixture for each tile. By this arrangement it is not necessary to consider variations in the outer dimensions of the tiles and moreover the present invention aids very materially in fastening the tiles to the base.

The fixture which receives each tile is in the form of a frame conforming in shape to a tile and the fixture is fastened to a base or floor and the tile is thereafter fastened to the fixture. It is also possible in some cases to fasten the tile to the fixture and thereafter fasten the fixture to the base. In case where the fixture is first fastened to the base, such attachment can be done by the use of nails, screws or glue. In cases where the tile is first fastened to the frame or fixture, it is then possible to use glue for fastening down the frame or fixture and especially a glue of the kind intended for securing tiles, such glue being generally known as a cement.

For the purpose of setting the tile properly with reference to the fixture, the fixture is provided with one or more guiding walls for the tile, such walls being up-standing from the base portion of the fixture. Thus, it is suitable if the tile is fastened to the fixture to use such guiding surfaces in such a way that the glue or cement reaches the end surface or edge of the tile, which surface is moved to contact with the guiding surfaces on the fixture.

The method for fastening a plurality of tiles adjacent to each other and using a fixture for each tile is substantially as follows: When a frame or fixture and its tile are fastened onto the base, an adjacent fixture and its tile are fastened onto the base in a similar manner. For the purpose of locating the adjacent fixtures relative to one another, each fixture is provided with one or more locating devices, and one locating device for a fixture is intended to cooperate with a complementary element on the adjacent fixture. In case the fixture has two guiding surfaces and a plurality of the tiles are placed adjacent to one another by the use of such fixtures, one or more contact surfaces on the tiles will co-operate with a guiding surface on the fixture. At this side of the fixture and its tile a separate joint band or edging strip may be arranged.

A fixture intended to be used in the manner described will be disclosed in more detail with reference to the accompanying drawing, wherein

FIG. 1 shows the fixture in plan view;

FIG. 2 is a sectional view taken substantially on the line 2—2 of FIG. 1, looking in the direction of the arrows,

FIG. 3 shows a section of a separate guiding strip

and

FIGS. 4 and 5 show another embodiment of a fixture.

The fixture, in the form shown, is in the form of a rectangular frame having four side bars shown respectively at 1a, 1b, 1c and 1d which cooperate in forming a base surrounding a central opening. The frame corresponds in shape to the form of the tile intended for use with said fixture. The tile is preferably of the form and shape of the so-called glazed tile. The parts 1a, 1b, 1c and 1d of the fixture are provided with a plurality of holes 2 intended for the fastening of the fixture to the base or floor 3, by the use of nails 4, extended through the holes and into the base as shown in FIG. 2. Screws might also be used for the purpose or the fixture may also be fastened by glue, cement or other adhesive.

The frame or fixture has two upstanding guiding surfaces one of which is shown at 5 on the part 1a and the other shown at 6 on the part 1d. The tile, not shown in the drawing is rested on the parts 1a to 1d and one of the edges of the tile fits closely against the guiding surface 5 and another of the edges of the tile fits closely against the guiding surface 6. The guiding surfaces 5 and 6 are arranged perpendicularly to each other and form guiding strips 5a, 6a.

Each of the guiding strips 5a and 6a has a height to correspond to the thickness of the tile. Each guiding strip is on each side shaped to provide a guiding surface and serves as a joint between two adjacent tiles.

For the purpose of fixing two adjacent fixtures or frames on a base, the part 1b has a locating device or lug 11 and the part 1c has a similar locating device or lug 12. The guiding strip 5a is formed with a recess 51 and the strip 6a is formed with a similar recess 61. The lugs 11 and 12 are intended to fit into the recesses 51 and 61 in an adjacent fixture when two of the fixtures are disposed in side-by-side relationship. In some cases the tiles have special locating means and in such cases the guiding surface 5 and the guiding strip 5a may have recess 52 and the guiding surface 6 and the guiding band 6a may have a recess 62.

The parts of the fixture or frame which are not provided with guiding surfaces or walls may co-operate with a separate guiding strip such as shown at 7a in FIG. 3 in which case the guiding surface 7 will be placed close to the edge of a tile. As shown in FIG. 3 the separate edging strip 7a may have recesses 71 for co-operation with the lugs 11 and 12.

FIGS. 4 and 5 show an other embodiment of a fixture, where the same parts as shown in FIG. 1 have been given the same reference number.

For the purpose of eliminating disadvantages caused by the variations in the thickness dimensions of the tiles, the embodiment shows in FIGS. 4 and 5 that the parts 1a and 1d shall have two or more downwards (towards the base 3) pressable bulgings or swellings 7, 8, the bulging 7 is located at two different places. These bulgings 7 and 8 are intended to be pressed downwards by the tile
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a distance, which corresponds to the thickness of the tile exceeding a predetermined value. The bulgings are swelled out from an upper plane of the surface 5, and the guiding surface 5. This groove may be a slot through the part 1a. On a similar manner cooperate the two slots 8a with the bulging 8b.

Under each bulging 7a is a recess 7b which is more in detail and in a larger scale shown in Fig. 5 and it is suitable to let said recess 7b have such a form that the bulging 7 has essentially the same thickness as the rest of the part 1a. However, it is possible to give the recess 7b such a form that the bulging 7 has a decreasing thickness towards its middle portion. It is of course even possible to let the bulging have a decreasing thickness in the direction from the guiding surface 5.

In order to have the bulgings to serve within the now existing variations in the thickness dimensions of the tiles it has been verified that the upper part of the bulging 7 shall be placed above the upper plane of the part 1a at a distance 50-150% of the thickness of the part 1a. Sometimes the upper value may be set to 100%.

The distance h, shown in Fig. 5, in the distance between the upper part of the bulging and the upper part of the surface 5, and said distance shall correspond to the thinnest tile and constitute the previously mentioned predetermined value. The recess 7b may have a diverging shape from the slot 7a so the part of the bulging 7 which is directed from the slot 7a has a smaller thickness than corresponding parts closer the slot 7a. Independently of the steps taken it is obvious that the scope of the invention, as it is shown in the embodiment, according to Figs. 4 and 5, refers to the fact that the upper outer edge of the tile shall be pressed of the bulgings towards the under surface, which is shaped by the upper diverging parts of the guiding surface 5.

The present invention is not to be restricted to the above described means but may be modified within the scope of the appended claims. It is obvious that the fixture or frame is intended for receiving a tile and that the fixture will thus be of a form and shape corresponding to the form and shape of the tile which it is to receive. For example, the fixture may have six edges if the tile to be accommodated is similarly shaped. In the event that cement intended for use with glazed tiles is used, the cement is placed between the glazed tile and the guiding surfaces of the fixture and a watertight joint will be the result. The fixture might also be shaped to fit glazed tiles with curved corners, curved edge surfaces or the like. Even a special fixture for the edging strip can be used and in such case it will be desirable to provide for no recesses in the guiding parts at the side which will be visible.

Having thus described an embodiment of the invention it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claims.

What is claimed is:

1. A mounting device for fastening a tile to a surface comprising:
   (a) a peripheral, rectangular frame member having a structural configuration conforming to and shaped to receive a tile to be mounted thereon,
   (b) said frame member including a base portion on which the tile is rested and an upstanding wall portion against which the edges of a tile abut,
   (c) said wall portion comprising two wall sections located along adjacent sides of the frame member against which wall sections two adjacent edges of a tile are respectively abutted,
   (d) said wall sections being perpendicular to each other and terminating at the adjacent sides directly opposed to the two wall sections to form an L-shaped wall portion,
   (e) at least one laterally outwardly projecting lug located on one of its sides and at least one recess located directly opposed to the lug on a side opposite from said lug side,
   (f) said lug and said recess having a structural configuration to interengage with a respective recess and a lug on adjacent frame members when a plurality of the frame members are placed in juxtaposition, and
   (g) a plurality of upwardly extending spacing projections located on the base portion closely adjacent the upstanding wall sections, on which projections the tile rests.

2. A mounting device for fastening a tile to a surface as defined in claim 1 wherein a lug is located on adjacent sides and a recess is located diametrically opposed to each of the lugs on the sides opposite from the lug sides.

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