Feb. 21, 1956 A. R. LEYERLE ET AL 2,735,523

TILE FACED WALL

Filed April 30, 1952 2 Sheets-Sheet 1

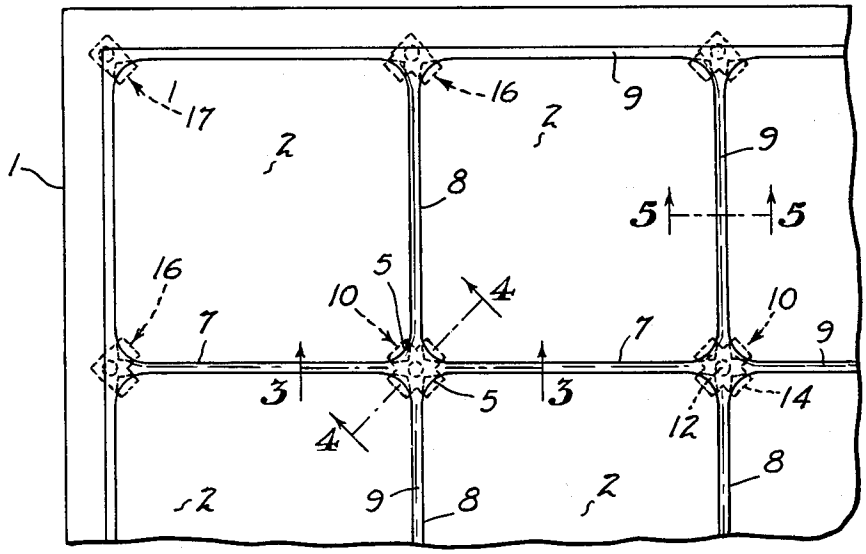

Fig. 1

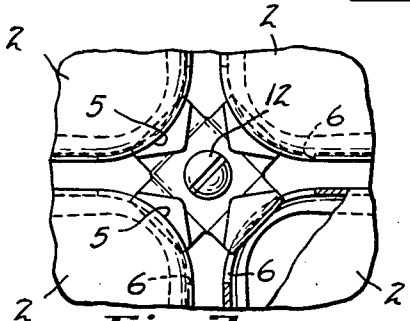

Fig. 2

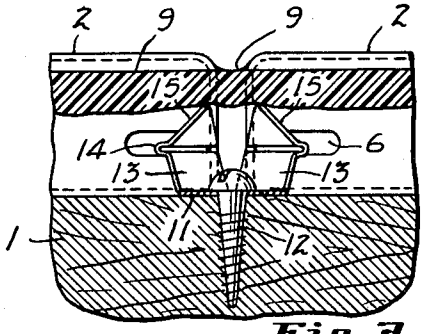

Fig. 3

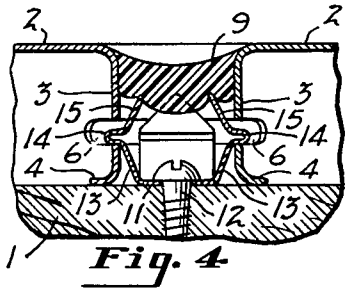

Fig. 4

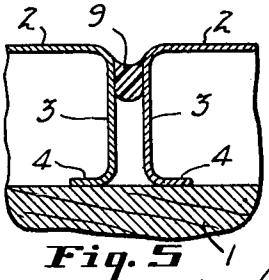

Fig. 5

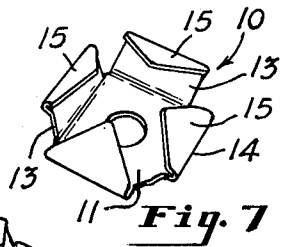

Fig. 7

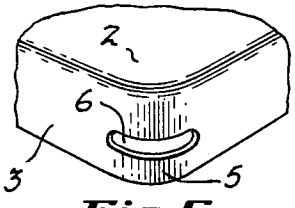

Fig. 6

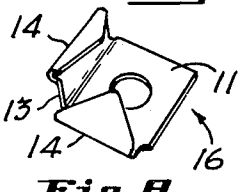

Fig. 8

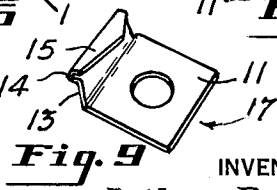

Fig. 9

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TILE FACED WALL

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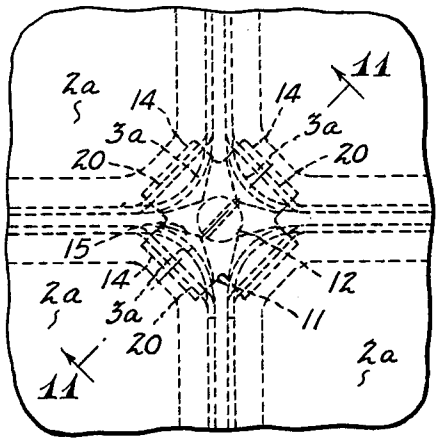

Fig. 10

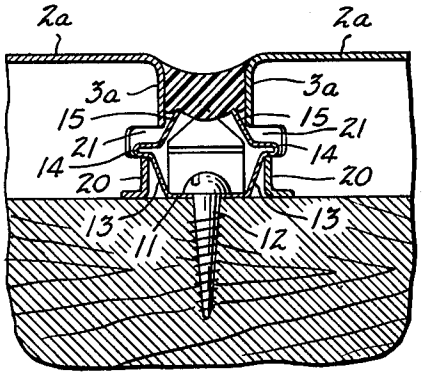

Fig. 11

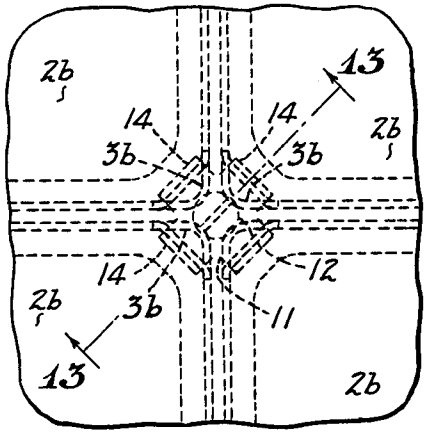

Fig. 12

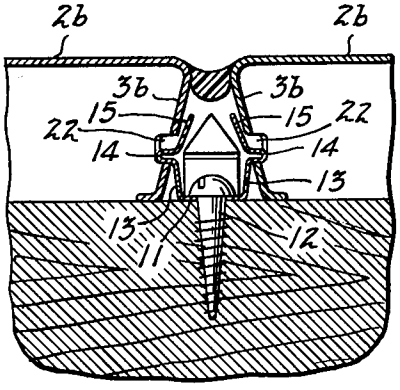

Fig. 13

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TILE FACED WALL

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Application April 30, 1952, Serial No. 285,290

6 Claims. (Cl. 189—85)

This invention relates to tile faced wall structures and more particularly to a structure in which the tiles are in the form of vitreous enameled metal panels of polygonal form that are mounted in uniformly spaced relation on the wall with their edges in alinement to provide straight intersecting filler joints.

The polygonal tiles, preferably of rectangular shape, are detachably secured to the wall in spaced relation by means of clips to provide filler joints which receive a suitable plastic sealing or calking composition. The tiles have rounded corners which are uniformly spaced around each joint intersection and which provide an enlarged filler receiving space at each intersection.

The tile fastening clips are mounted on the wall body at the joint intersections and engage in openings formed in the rounded corners of the tiles to space the tiles apart and secure them to the wall body. The clips, which are resilient and yieldable, can be attached to the wall body before application of the tiles, after which the tiles can be quickly and easily secured in place on the wall in proper position to receive the plastic filler. The plastic filler covers and conceals the clips, embedding the outer portions of the clips and serving to hold the clips in locking engagement with the tiles. The clips also provide a support or backing for the plastic filler at the joint intersections.

When an individual tile is damaged the filler around the edges of that tile can be removed, freeing the clips that engage the corner of the tile, after which the tile can be readily freed from the clips. After removal of a damaged tile a new tile can be quickly and easily secured in place and the plastic filler applied.

Objects of the invention are to provide a means for quickly and easily mounting facing tiles on a wall structure and to provide tile attaching means such that individual tiles can be readily removed and replaced with new tiles when desired.

Reference should be had to the accompanying drawings forming a part of this specification in which:

Figure 1 is a plan view of a wall structure embodying the invention;

Fig. 2 is a fragmentary plan view on an enlarged scale showing one of the joint fastening clips in locking engagement with the corners of adjacent tiles;

Fig. 3 is a fragmentary section taken on the line indicated at 3—3 in Fig. 1;

Fig. 4 is a fragmentary section taken on the line indicated at 4—4 in Fig. 1;

Fig. 5 is a fragmentary section taken on the line indicated at 5—5 in Fig. 1;

Fig. 6 is a fragmentary perspective view of one of the rounded and slotted tile corners;

Fig. 7 is a perspective view of the four arm clip which engages the four adjacent tiles at joint intersections;

Fig. 8 is a perspective view showing the two arm clip that may be used along a side edge of the wall;

Fig. 9 is a perspective view of the one arm clip such as used at a wall corner.

Fig. 10 is a fragmentary plan view showing a construction in which the filler receiving space at the filler joint intersections is made smaller by providing the tiles with a modified corner construction;

Fig. 11 is a section taken on the line indicated at 11—11 in Fig. 10;

Fig. 12 is a fragmentary plan view showing a second modified construction; and

Fig. 13 is a section taken on the line indicated at 13—13 in Fig. 12.

In the accompanying drawings the numeral 1 is applied to the wall body to which the tile facing is applied. This body may be solid or it may be a skeleton framework. Tiles 2 of rectangular form are shown attached to the wall body 1 and each of these tiles is provided with a marginal flange 3 which may have an inturned edge 4 that forms the inner wall body engaging face of the tile. The tiles are preferably enameled sheet metal tiles, all edges of which are rounded to avoid chipping of the vitreous enamel coating.

The tiles 2 have blunt corners 5 preferably of generally rounded form, each of which is provided with an opening or slot 6. As herein shown, the tiles 2 are rectangular and are attached to the wall 1 in uniformly spaced relation and with their side edges alined to provide intersecting horizontal and vertical filler joints 7 and 8 which receive a filler 9 which is preferably a plastic sealing or calking compound.

At the intersection of the filler joints 7 and 8 inwardly of the edges of the wall, the blunt corners 5 are spaced around the intersection to provide an enlarged filler receiving space as shown in Figs 2 and 4. At the center of each intersection a tile retaining clip 10 of resilient material such as sheet metal is attached to the wall 1, each clip 10 having a base portion 11 and an upwardly extending portion 13 facing each tile corner with its side edges facing the blunt corners 5. Each upwardly extending portion 13 is inclined outwardly toward the rounded tile corner adjacent thereto, the portion 13 forming the inner end of a yieldable retaining arm that has a doubled locking projection 14 that extends a short distance into the slot 6. Outwardly of the locking projection 14 the arm has an end portion 15 that is inclined inwardly toward the center of the clip and that terminates inwardly of the outer faces of the tiles.

For rectangular tiles such as herein shown, the clip is provided with four independent resilient arms extending upwardly and outwardly from its base 11. The clips 16 are the same as the clips 10 except that they have spring retaining arms formed on two sides only of the base, and the clip 17 has a retaining arm on one side only of the base. The clips 16 are used along the margins of the tile facing, and the clips 17 are used at the wall corners. The clips 10, 16 and 17 are preferably attached to the wall 1 in position to receive the tiles, after which the tiles can be quickly and easily snapped into place against the wall body.

The inclined inner portions 13 of the tile retaining arms are yieldable to permit the individual tiles to be moved toward the clip bases 11 so that the tiles can be engaged with two of the clips and moved toward an adjacent tile far enough to permit ready engagement with the retaining portions of the clips at the opposite side thereof. In removing an individual tile from the wall the tile can be detached from the clips on one side thereof by pressing the tile against the clips at the opposite side, after which it can be tilted and removed. After removal of a damaged tile a new tile can be quickly and easily inserted into place by springing the tile retaining arms of the clip into engagement with the tile slots.

In replacing a tile in the wall the filler around the tile to be replaced is removed after which the tile may be lifted out. A new tile may then be inserted into the empty

space and into engagement with the clip retaining arms. The free ends **15** of the clip arms may be readily gripped with suitable pliers if manipulation is necessary to engage or disengage the retaining portion thereof in the tile openings.

The outer ends **15** of the arms, when embedded in the filler **9**, serve to positively hold the portions **14** of the clips in their locking positions.

Figs. 10 to 13 show wall structures in which the tiles have sharper corners to reduce the area of the filler receiving space and in which the corner portions of the tiles are constructed for locking engagement with resilient locking clips.

In Figs. 10 and 11 the tiles *2a* have their flanges *3a* formed at the tile corners to provide an inner portion **20** that is inset with respect to the outer portion of the flange and an opening or slot **21** to receive the locking projection **14** of the retaining clip which may be the same as that above described. The lower edge of the opening **21** overlies the inwardly offset portion **20** of the flange and the height of the opening is sufficient to accommodate the upper ends **15** of the clip arms.

In Figs. 12 and 13 the tiles *2b* have their flanges *3b* inclined inwardly at their corners to provide an upwardly tapering filler space, the flanges *3b* having openings **22** to receive the locking projections **14** of the retaining clips.

It is to be understood that in accordance with the provisions of the patent statutes, variations and modifications of the specific devices herein shown and described may be made without departing from the spirit of the invention.

What we claim is:

1. A wall structure having a wall body and a facing of polygonal tiles that are regularly spaced with their inner surfaces engaging said wall body and their side edges alined to provide straight intersecting filler joints, said tiles having blunt corners that are spaced circumferentially around the joint intersections and that provide an enlarged filler receiving space at each intersection, said blunt corners having openings spaced from their wall engaging surfaces and clips fastening said tiles to said wall body, each of said clips having a base portion secured to said wall body substantially at the center of one of said enlarged spaces and integral resiliently bendable arms extending outwardly from said base portion and wall body, each of said arms having an inclined inner portion extending laterally outwardly from said base portion of the clip and terminating in a free end portion extending laterally inwardly with a reversely bent intermediate portion projecting laterally into an adjacent tile opening, said free end portion providing a cam surface engageable by said inner surface of the adjacent tile at a corner thereof for independently springing the arm laterally inwardly toward said center to snap said intermediate portion into place in the adjacent tile opening as the tile is moved toward said wall body.

2. A wall structure having a wall body and a facing of polygonal tiles that are regularly spaced with their inner surfaces engaging said wall body and their side edges alined to provide straight intersecting filler joints, said tiles having blunt corners that are spaced circumferentially around the joint intersections and that provide an enlarged filler receiving space at each intersection, said blunt corners having openings spaced from their wall engaging surfaces, resilient clips fastening said tiles to said wall body, each clip having a polygonal base portion secured to said wall body and disposed with its side edges facing the blunt tile corners, and a separate, integrally connected, resilient arm bent up from said base portion along each of its sides, each of said arms extending outwardly from said base portion and said wall body a distance less than the thickness of the tiles and having an inclined inner portion extending laterally outwardly from said base portion of the clip and terminating in a free end portion extending laterally inwardly with a reversely bent intermediate portion projecting laterally into an adjacent tile opening, said free end portion providing a cam surface engageable by said inner surface of the adjacent tile at a corner thereof for independently springing the arm laterally inwardly toward said center to snap said intermediate portion into place in the adjacent tile opening as the tile is moved toward said wall body.

3. A wall structure having a wall body and a facing of polygonal tiles that are regularly spaced with their inner surfaces engaging said wall body and their side edges alined to provide straight intersecting filler joints, said tiles having blunt corners that are spaced circumferentially around the joint intersections and that provide an enlarged filler receiving space at each intersection, said blunt corners having openings spaced from their wall engaging surfaces, resilient clips fastening said tiles to said wall body, each of said clips having a base portion secured to said wall body centrally of one of said enlarged spaces, each of said clips having a bendable arm extending outwardly from its base portion opposite each adjacent tile corner, each arm having an inner portion extending from said base portion exteriorly of the adjacent tile corner, a projecting portion intermediate its ends entering a tile opening and an outer end portion inclined inwardly away from the adjacent tile corner and toward the center of the filler joint, the inner portion of each arm being yieldable and movable toward said base portion to disengage said projecting portion from said opening, said arms defining a pocket therebetween for receiving a filler to lock the arms in tile retaining position.

4. A wall structure having a wall body and a facing of regularly spaced tiles, each of polygonal form with blunt corners and having a circumferentially continuous marginal flange with an inner edge portion that forms an inner body engaging surface of the tile and a side face portion that forms the side edge of the tile and extends from said inner edge portion to said wall facing, said tiles being arranged with their side edges alined and spaced to provide straight intersecting filler joints, the marginal flange of each tile having an opening formed therein and spaced from the inner body engaging surface of the tile, resilient clips fastening said tiles to said wall body, each of said clips having a base portion secured to said wall body beneath the central portion of a filler joint, each of said clips having a bendable arm extending outwardly from its base portion away from said wall body, each arm having an inner portion extending from said base portion and engaging the exterior surface of the adjacent marginal flange, a projecting portion intermediate its ends entering a tile opening and an outer end portion inclined inwardly toward the center of the clip and away from the adjacent marginal flange, the inner portion of each arm resiliently bendable inwardly toward the center of the clip, and the outer portion of each arm providing a cam surface engageable by the adjacent marginal flange of a tile for independently springing the arm inwardly toward the center of the clip to snap said projecting portion into place in the adjacent tile opening as the tile is moved toward said wall body.

5. A wall structure having a wall body and a facing of polygonal tiles that are regularly spaced with their inner surfaces engaging said wall body and their side edges alined to provide straight intersecting filler joints, said tiles having blunt corners that are spaced circumferentially around the joint intersections and that provide an enlarged filler receiving space at each intersection, said blunt corners having openings spaced from their wall engaging surfaces and clips fastening said tiles to said wall body, each of said clips having a base portion secured to said wall body adjacent a tile corner, and an integrally connected, resiliently bendable arm extending outwardly from its base portion opposite each adjacent tile corner, each said arm having an inner portion extending outwardly from said base portion and said wall body and terminating in a free outer end portion extending outwardly from said base portion and laterally inwardly

away from the adjacent tile corner with an intermediate portion projecting laterally into one of said openings in the adjacent tile corner, said outer end portion providing a cam surface engageable by said inner surface of the adjacent tile at the adjacent corner thereof for springing the arm laterally inwardly to snap said projecting portion into place in said one of said openings as the tile is moved toward said wall body.

6. A tile fastening clip of sheet material having a flat polygonal base portion and an integrally connected, resiliently bendable arm at each side edge thereof, said arms having inner portions adjacent said base portion extending outwardly in the same general direction away from the plane of said base portion, outer free end portions extending outwardly from said inner portions in the same general direction while converging inwardly toward a central axis normal to the plane of said flat base portion of the clip, and an intermediate portion projecting laterally outwardly

away from said axis for entering an opening in the corner edge of an adjacently disposed tile, said outer free end portion of each of said arms providing an inclined cam surface engageable by said corner edge of an adjacent tile for springing the arm inwardly toward said axis to snap said intermediate portion of the arm into said opening in the corner edge of the tile as the tile is moved in the direction of said axis toward the plane of the base portion of said clip.

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