This invention relates to tiling and more particularly to a system of interfitting tile units and fasteners therefor, for use in flooring as well as wall finishing and paneling. The invention has, further, more particularly to do with tiles which are made of metal by die-casting or other approved process or formed from sheet metal or other suitable material possessing the requisite tensile strength and rigidity, the respective tiles being enameled or otherwise coated or ornamentally surfaced. More specifically, the system includes variously formed wall or floor surfacing units or panel sections, together with special finishing strips and corner elements and correlated securing devices or bracket elements for fastening the tiles and associated finishing strips and corner elements to the wall structure and floor base of a building.

The invention consists in the general system of assembly and in the particular units or parts thereof as hereinafter described and set forth with particularity in the appended claims, reference being had to the accompanying drawings illustrating practical adaptations of the invention, and, in which—

Figure 1 is a perspective view illustrating an assembly of wall tiles in both plain flat and corner arrangement as built up above base members and including finishing strips and corner elements;

Figure 2 is a fragmentary perspective view of a base element detached and illustrating the application of reversely arranged securing brackets for fastening the element to both the wall and the floor;

Figure 3 is a cross section of the base element taken on or about the line 4—3 of Figure 2;

Figure 4 is a perspective view of an angular bracket as illustrated in Figures 2 and 3;

Figure 5 is a perspective view of a corner base element;

Figure 6 is a fragmentary perspective view of a cove element;

Figure 7 is a perspective view of a unit for framing an opening in the tiled wall or floor assembly;

Figure 8 is a perspective view of a rectangular tile unit showing securing brackets applied to opposite end portions thereof;

Figure 9 is a view illustrating a modification of the rectangular tile unit similar to that shown in Figure 8 but having a right-angled end portion, said unit having reversely arranged securing brackets applied thereto;

Figure 10 is a fragmentary sectional view of the meeting marginal portions of two tile units, illustrating a modified form of securing bracket for the notched flange portions thereof;

Figure 11 is a perspective view of the securing bracket illustrated in Figure 10;

Figure 12 is a perspective view of a gauge element or spacer for locating the securing brackets on the wall or floor, as the case may be;

Figure 13 is a cross sectional view of a tile unit showing a further modified form of securing bracket applied thereto;

Figure 14 is a perspective view of the securing bracket illustrated in Figure 13;

Figure 15 is a fragmentary perspective view of a top head or finishing element, showing a still further modification of the securing bracket;

Figure 16 is a cross section taken on or about the line 16—16 of Figure 15;

Figure 17 is a view similar to Figure 16, but showing yet another form of securing bracket;

Figure 18 is a perspective view of a cove member for the top beading;

Figure 19 is a fragmentary perspective view of a corner member for the regular stripping, showing a special securing bracket applied thereto;

Figure 20 is a sectional view of the corner member illustrated in Figure 20;

Figure 21 is a fragmentary perspective view of a regular strip element;

Figure 22 is a fragmentary perspective view of an assembly of special wall panels having floor base portions;

Figure 24 is an inner face view of two adjoining panel sections, showing an arrangement of securing brackets therefor;

Figure 25 is a section on the line 25—25 of Figure 24;

Figure 26 is a section on the line 26—26 of Figure 24;

Figure 27 is a section on the line 27—27 of Figure 24;

Figure 28 is a perspective view of the diagonal corner bracket illustrated in Figure 24;

Figure 29 is a perspective view of the lower marginal securing bracket illustrated in Figure 24;

Figure 30 is a perspective view of the upper marginal securing bracket illustrated in Figure 24;

Figure 31 is a perspective view of an assembly of modified wall tiles and associated trimming elements;

Figure 32 is a perspective view of a square tile.
for use in connection with a staggered arrangement of the rectangular tiles in brick-setting effect and for ordinary use;

Figure 33 is a fragmentary plan view illustrating an assembly of floor tiles in accordance with the invention;

Figure 34 is a section on the line 34—34 of Figure 33;

Figure 35 is a section on the line 35—35 of

Figure 33;

Figure 36 is a detailed view of a fastener for the floor tiles illustrated in Figure 33;

Figure 37 is a perspective view of a floor tile body element;

Figure 38 is a plan view of a modification of the floor tile; and

Figure 39 is a section on the line 39—39 of Figure 38.

Generally stated, the tiles and panel elements, to be hereinafter described in detail, are marginally flanged and notched and made in rectangular and other polygonal forms according to the particular designs to be produced in the assembly of the units.

Referring first more particularly to Figures 1 to 12 inclusive, and Figures 31 and 32, the numeral 1 designates one of a plurality of tiles, each of square form, the four marginal portions of which are flanged inwardly, as at 2, said flanges being provided with a series of notches 3 which are preferably outwardly flared, as shown. These tiles, as well as modified forms thereof, to be later described, are set into cement which is applied to the wall or floor surface where the tiles are placed, the notched marginal flanges of the tiles being embedded in the cement with retentive effect, but, to more securely hold the tiles in place, retaining brackets of various forms are secured to the wall or floor surface for the interlocking reception of the tiles, as will be later more fully described.

In either a wall or floor assembly, or both, base units are used, said units being provided in elongated straight units of substantially right-angular cross section and having notched marginal flanges similar to the flanges of the tiles, said elongated straight base units being joined in the assembly to receive the outer corner members or covers which are also marginally flanged and notched. As shown in the assembly in Figure 1 and in detail in Figures 2 and 3, the elongated straight base units, designated by the numeral 5, have body portions of true right-angular cross section with notched flanges along longitudinal margins, as at 6, said flanges having series of notches 7.

As shown in Figures 1 and 5, a low corner unit 8 is provided, the upper body portion of said unit being of right-angular section and having notched flanges 9 at its upper end, said flanges being notched, as at 10. This corner unit is formed with a turned-out base flange 11 which is re-flanged at its marginal portions, as at 12, said re-flanged portion being provided with notches 13. The opposite vertical margin of the right-angular upper body portion of said corner unit 8 and the coinciding ends of the base flange 11 thereof are also provided with notched flanges which are notched similarly to the top flanges 9 and base flanges 11 of the units.

Elongated corner elements 14 (see Figure 1) are provided in connection with the base corner unit 8 and extending vertically therefrom in continuity with the corner finish of the tile assembly. This elongated corner element 14, as shown, is made separate from the base unit 8, but, obviously, it may be formed as an integral extension of said base unit. So, too, said elongated corner element 14 may extend in one piece continuously from the base corner unit 8 to the top beading or molding strips or elements, designated generally by the numeral 15, which are provided in finishing the upper marginal portion of the tile assembly, or, as shown in Figure 10, said corner element 14 may be divided into two or more separate sections with short corner units 16 interposed between the meeting ends thereof, said corner units 16 completing the continuity of horizontal striping, designated generally by the numeral 17, extending the length of the tiled surface between the base units 5 and 8 and the top beading or molding 15. The corner unit 16 is of right-angular form corresponding to the upper portion of the base units 5 and 8 and it is provided at its top, bottom and opposite end margins with notched flanges 18 (see Figure 20), the end flanges being notched, as at 18', and more clearly shown in Figure 21, for engagement with a right-angular supporting and retaining bracket 19 having integral spaced portions 20 which are aperture to receive nails or screws which fasten the bracket to the adjacent portions of the wall where the corner units 16 are placed. In this connection, it is here noted that the elongated corner elements 14 are obviously provided with notched flanges along their longitudinal margins corresponding to and alining with the end flanges of the interposed short corner unit 15 and are notched similarly to the flanges of the tiles 1 and base units 5 and 8. So, too, the elements 14 are anchored to the wall by bracket members of the same kind as the member 19 which supports and retains the corner unit 16. It is here further noted that said bracket members 19 are reduced in width near their offset end portions 20 so as to provide shoulder neck portions 19' to fit in the notches 18' of the short corner units 16 and the marginal notches of the elongated elements 14.

The striping or assembling elements 21 which may be plain flat, as shown in Figure 22, or, obviously, may be transversely rounded outwardly or otherwise specially formed or configured for ornamental purposes. These strips 21 are provided along their longitudinal margins with notched flanges 22 which are notched, as at 23, in a manner similar to the notching of the hereinafore described elements or units. It being, of course, understood that the finishing strips 21 are either made in different standard lengths or cut from a relatively long strip to suit the particular installations at the time when and where they are applied. It is to be further understood that the finishing strips 21 may be in the form of open-ended channels, as shown in Figure 22, but it is obvious that the ends of said strips 21 may be closed by anointed flanges as are the ends of the corner units 16, the end flanges being either notched or not, as desired. The striping elements 21 may be secured to the wall by retaining brackets of various forms and similar to those to be used in connection with the tiles and other surfacing elements to be presently more fully described.

For finishing the cores or inner corners of the tiled wall surface, elongated elements 24 are provided, these elements being right-angular in cross section, as shown more clearly in Figure 6 of the drawings. As with the outer corner elements 14, 75
these inner corner elements may be provided in different lengths so as to extend all the way from the base units 5 to the top beading or molding 15 or they may be divided into separate pieces with interposed short corner elements of the same general cross section as said elements 24 and obviously flanged at their top and bottom margins similarly to the hereinafore described corner units 16. The formation of said units 25 being obvious from the illustrated form of the elongated elements 24, no further detailed description of said units 25 is deemed necessary.

The lower elongated inner corner or cove element 24, as illustrated in Figures 1 and 6 of the drawings, is formed integrally with a base portion 26 which is of rectangular form and marginally flanged downwardly, as at 27, said base portion 26 fitting between the abutting ends of the two adjoining base units 5. However, the base portion 26 may be made separately from the elongated element 24 and applied in connection with the latter in substantially the same manner in which outer base unit 5 and the elongated corner element 14 are associated. The application of such separate base member in connection with the elongated vertical stripping is illustrated at 28 in Figure 31, in which figure the particular corner strip, designated by the numeral 34, extends in one piece continuously from the base unit 26 to the top beading or molding 16.

The elongated inner corner or cove elements 24 and 24a are provided with interturn flanges 28 along their longitudinal margins, as shown in Fig. 6, said flanges 28 each having a series of notches 29 similar to the notched flanging of the other horizontal or vertical elements 24 and 24a, from which a staggered brick-like assembly is illustrated in Figure 31, one of said oblong tile being illustrated in detail in Figure 8. For the purpose intended, the oblong tile is of a width corresponding to the length of one side of the square tile and of a length double that of its width. Like the tile 1, said oblong tile is provided with an interturn marginal flange 28 which overlies its notched portion.

For outer corner formations in tiling a wall surface without the use of the hereinafore described finishing strip elements 14, both the square and oblong tiles may be modified, as shown in Figure 9, wherein an oblong tile 13 is provided at one end with a right-angular extension 14. In this connection, the angular end extension 14 of the respective tiles 13 may be made in different standard lengths. It is here further noted that a reverse arrangement of the end extensions of both the square and oblong tiles may be made for inner corner or cove installations, and that in inner corner or cove installations the finishing strip 24 may be thereby eliminated. It is further noted that the tiles 13 are also marginally flanged and notched, as at 29a and 30a, respectively. So, too, vertical end finish strip 30 may be provided for the tile 13 similarly as illustrated in Figure 31 of the drawings, wherein the strip extends in one piece continuously from the base unit 5 to the top beading or molding 15. However, said striping 30 may be made in separate unitary pieces like the corner striping 14 and 24, respectively.

The top beading or molding 15 is made in various unitary or standard lengths or cut to desired length at the time of installation as are the intermediate horizontal finishing strips 21. So, too, said top beading or molding may be of any desirable cross section. However, the preferred cross section is illustrated in Figures 15 to 19, inclusive, wherein the main body portion of each strip 31 is generally flat or contour flat, therefrom, but formed with inturnd upper marginal flanges 32 which are flanged downwardly, as at 33 (see Figures 15 to 17, inclusive). Certain of the beading or molding strips, designated by the numeral 31a, are not only marginally flanged and 32a, but they are formed with right-angular end extensions 34a, the upper portions of which have continuations of the flanges 32a and 33a whereby said end portions 34a coincide with the the inner corners or coves of the tile assembly illustrated in Figure 1. For an outer corner finish, a top beading or molding strip 31b is provided with a right-angular end extension 34b and top flanging 32a similar to the flanging 32 and 32a of the strips 31a and 31b, as well as having downturned flanges corresponding to those shown at 33 and 33a of said strips 31a and 31b.

Various forms of retaining brackets in addition to the hereinafore described brackets 19, for the several tiles and associated elements, will now be described:

First referring to Figures 2 to 4, inclusive, a special retaining bracket 35 is illustrated for securing the base units 5 and 8 to a wall and floor structure. As shown, this particular bracket 35 is of general right-angular shape, having one end portion turned outwardly at right angles to the body portion, as at 36, and then turned upwardly and parallel with the adjoining leg portion of the body 35 and being apertured, as at 37, for the reception of a nail or screw by which the bracket is secured to the wall or floor base, as the case may be. Preferably, as shown, the corner portion of the bracket where the portions 36 and 37 are offset from the body is notched at opposite sides of the bracket to provide a reduced neck 38, said neck 38 fitting rather tightly with wedging effect in the bottom of one of the notches 7 of a base unit 5 or 8, as the case may be, and the neck portion 40 being according to notch on opposite sides to provide a neck 40 similar to the first described neck 38, said angular end portion 39 constituting a T-head to overlap the outer face of the adjacent flange portion 6 of the base unit 5 or 8, as the case may be, and the neck portion 40 fitting in the notch 7 in said flange 6 in alignment with the notch in which the neck portion 38 is fitted at the opposite margin of the base unit. In this connection, it is noted that there is a space provided between the respective portions 35 and 39 of the bracket 35 and the adjacent flange 6 of the base unit 5 or 8 to which the bracket is applied, sufficient to receive the interturn marginal flanges of adjoining wall or floor tiles. As shown more clearly in Figure 2, the brackets 35 are sequentially placed in reverse order for the reception of base units 5 and 8, as shown, and in another position in Figure 2, wherein they are alternately nailed or screwed to the wall and floor base, whereby securely retaining the units 5 and 8 against both upward movement from the floor and outwardly from the wall.

A modification of the retaining bracket is illustrated in Figures 8, 10, and 11, wherein the bracket member, designated by the numeral 41, comprises a single strip of metal rebent upon itself, as at 42, to provide a substantial shoulder, and again rebent, as at 43, in spaced relation to...
said shoulder 42 so formed, the end portion 44 of the bracket extending away from the base of the shoulder portion 42 being apertured for the reception of a nail or screw by which the bracket is secured to the wall or floor base, the opposite end portion 45 which is offset inwardly and extended parallel to the portion 44 engaging the adjacent inner face portion of one of two adjoining tiles 1 or other of the surfacing elements which are joined in abutting marginal relation with their notched interturned flanges engaged in space afforded by the rebending of the portion 43 in opposed relation to the shoulder portion 42. Obviously, these brackets 41 may be placed at desired intervals along the marginal flanges of the tiles or other elements to be attached to the wall or floor, as the case may be, said brackets 41 being placed in reverse order on opposite sides of said tiles or elements, the form of the brackets being such that they may be readily so applied, thus obviating the necessity for making the same in rights and lefts.

A further modification of the retaining brackets is illustrated in Figures 9, 13, and 14, wherein the bracket comprises an elongated body 48 which is of a length somewhat longer than the width of the tile to which it is applied. As shown, one end portion of the bracket 45 is formed similarly to the offset angular portion of the first herein described bracket 3. A modified bracket 31 as illustrated with an offset apertured portion 37 which is connected to the end of the body portion proper by a neck 45, the opposite end portion of this modified bracket 46 being turned inward at a right angle to provide a T-head 43 which is connected to the body portion by a neck 49. In the application of this modified bracket 48 to the tile 1b, as shown, or to any of the other surfacing elements to which it is applicable, the body portion of the bracket extends transversely of the tile or other element at the inner side thereof with two aligned notches of the marginal flanges of the attached element engaging with the neck portions 48 and 50 of the bracket, the T-head 45 at one end of the bracket being spaced from the outer face of the adjacent flange of the attached element a distance to receive the abutting notches of the attached element and the base portion 47 of the offset portion 46 being correspondingly spaced from the opposite marginal portion of the attached element, to receive the marginal flange of an adjoining tile or surfacing element. In Figures 15 and 16, a special bracket 61 is illustrated for the attachment of the respective top beading or molding strips. This particular bracket comprises a single strip of metal the main body portion of which is straight and flat to supportingly engage the inner face of the beading or molding strip 21, 31a or 21b as the case may be, one end portion 52 of the bracket being rebent to provide a hook to engage the interturned lower marginal portion of the beading or molding strip, the upper portion of the bracket being bent outwardly at a right angle, as at 53, and again bent at a right angle as at 54, said portion 54 projecting some distance beyond the top flange of the beading or molding strip and being apertured for the reception of a securing nail or screw for the attachment of the bracket to the wall. Preferably, this bracket 61 is notched on opposite sides at the corner of the offset portions 53 and 54 to provide a neck 55 similar to the necks 38, 40, 48 and 50 of the hereinafore described brackets 33 and 46 for engagement in the notched flange portions 23, 31 and 31a. A modification 56 of the bracket 51 is illustrated in Figure 17, wherein the bracket is made substantially in L-shape and apertured in its vertical portion for the reception of the securing nail or screw, the horizontal portion 57 thereof being of the beading or molding strip adjacent the top flange thereof and the bracket being notched on opposite sides to provide a neck portion 59 similar to the neck portion 55 of said bracket 51. This bracket 56 is applied and functions substantially the same in the bracket 51 except that the elongated body portion with the hooked end 52 thereof is eliminated.

In installations where wall recesses or niches are provided for the accommodation of bathroom fixtures or other appurtenances special inserts for such recesses or niches are provided in connection with the tiles are illustrated in Figures 1, 7 and 31 of the drawings. As shown in Figure 1, the recess or niche, designated by the numeral 58, is bordered by four separate L-shaped tiles 56, the detail of each of which is illustrated in Figure 7 wherein each leg of the tile is provided with an interturned marginal flange 60 which is notched, as at 61, the same as the flanges of the several tiles and finishing strips hereinafter described.

In lieu of the tiled border for the recess or niche 58, as shown in Figure 1, said recess or niche may have a special rectangular hollow fixture 62 inserted therein, as shown in Figure 31, said fixture as illustrated being a conventional roll paper holder.

In accordance with the prime feature of the invention in the provision of hollow metal tile, paneling and finishing strips, paneling elements 63 of considerably larger sizes than the regular tiles may be installed in the same manner as herein described in connection with said smaller elements. An illustrative assembly is shown in Figure 23, wherein rectangular panels 63 have their vertical marginal portions inwardly flanged, as at 64, and notched, as at 65. Preferably, as shown, the panel 63 has a turned-out rectangular base portion 66 with a downturned marginal flange 67 and downturned end flanges 68, said longitudinally flanged portion being notched, as at 69. The top marginal portion of the panel 63 is formed with an interturned flange 70 which is re-flanged downwardly, as at 71, and provided throughout its length with a series of notches 72.

For a straight wall installation the panels 63, as just described, are generally used, but for inner corner or cove and outer corner installations special panels are provided as illustrated in Figure 22. The main body portions of these special panels are marginally flanged and notched the same as the panels 63, the structural difference being that the inner corner or cove panel 83a is provided with a right-angular extension at one vertical margin, as at 83a, the extension being flanged at top and in continuity with the top marginal portion 82 of the panel. The outer corner panel 85 is similar in general body formation to the panels 63 and 83a, except that its angular extension 84 is turned inwardly or the reverse of the extension 83a of the panel 83a. Special retaining brackets are provided for fastening the panels to the wall to which the panels are applied. As shown more clearly in Figures 24, 25 and 30, a special upper retaining bracket 73 may be provided for attaching and supporting
the upper portions of said panels 63, 63a and 63e at points intermediate their vertical margins, said bracket 73 being formed from a single elongated strip of metal, an intermediate body portion 74 of which is in contact with the inner face of the panel body while another portion 75 is offset away from the panel body. This bracket 73 is rebent repeatedly throughout its length, one end portion 76 which is offset from the body portion 74 being extended upwardly above the top flange 70 of the panel and apertured for the reception of a securing nail or screw and there being a reduced neck portion 77 at the base of said end extension 76 which engages in the notched portion 72 of the downturned flange 71 of the panel. The opposite end portion 78 of the bracket is brought inwardly from the offset body portion 75 so as to extend in alignment with the body portion 74 which is in contact with the inner face of the panel. The end portion 78 of the bracket is preferably notched, as at 75, to secure a better bonding with the cement in which the bracket is embedded in the course of installation of the attached panel.

A modified bracket 86 may be applied to the lower marginal portion of the panel. This particular device illustrated consists of the bracket 86, as shown more clearly in Figures 25 and 29, is rebent right-angle, it having an intermediate body portion 81 which is in supporting contact with the inner face of the panel to which it is applied, the upper end portion 82 of the bracket being apertured for nail or screw reception and offset away from the panel body and flanged inwardly at its extreme end portion, as at 83, so as to be brought into edge-wise engagement with the panel body, said notched end portion 82 being preferably notched, as at 83. The opposite end portion 84 of the bracket 80 is turned at right angles to the body portion 81 so as to extend under the base flange 66 of the panel and being provided with a T-head 85 at its extreme end portion which is turned downwardly to overlap the adjacent outer face portion of the downturned flange 67 of the panel, said portion 84 being connected to the turned-out portion 84 by a reduced neck portion 86 and being spaced from the flange 67 a distance sufficient for the insertion of the flange portion of a floor tile therefore being placed.

A further modified bracket 87 may be provided, as shown in Figures 24, 26, 27 and 28, for the joint attachment of two adjoining panels, such for example, as the panels 63 and 63a in the illustration in Figures 23 and 24. As shown this bracket 87 comprises a diagonal main body portion 85 the upper end of which is offset, as at 86, and apertured for the reception of a securing nail or screw by which the bracket is fastened to the wall. The apertured extension 88, is connected to the adjacent right-angular portion 89 of the bracket by a reduced neck portion 90 for engagement with the notched flange of the panel 63 as in the other forms of brackets herebefore described. The diagonal body portion of the bracket 87 extends from its right-angular upper end portion 89 in contact with the inner face of the panel 63 with its lower end portion turned at a right angle, as at 91, in contact with the inner face of the adjacent vertical flange 64 of the panel 63 and thence rebent, as at 92, with a reduced connecting neck portion 93 therebetween, said portion 92 being spaced from the portion 91 sufficient clearance for the abutting flanges 64 of the panels 63 and 63a with the neck portion 93 engaged in the registered notches of said abutting flanges 64. Beyond the rebent portion 92 the adjacent end portion of the bracket 87 is again rebent, as at 94, in contact with the portion 92 and then turned at a right angle, as at 95, in an offset plane parallel with the diagonal body portion of the bracket, said end portion 95 being apertured for the reception of a securing nail or screw. By this particular form of bracket 87 not only are the two adjoining panels 63 and 63a held endwise together, but the panels are firmly anchored to the adjacent wall portion where they are applied in the assembly.

It is here pointed out that in practice, in accordance with the present invention, the several tiles, panels and stripping elements or units are enameled or otherwise coated in any desirable color or ornamental scheme and that in setting the respective pieces the retaining brackets therefore are first nailed, screwed or otherwise attached to the wall or floor base in proper position to receive the tiles or other elements. In this connection it is noted that any suitable spacing device or gauge may be provided, an example of which is illustrated in Figure 12 of the drawings.

The particular device illustrated comprises a single elongated flat strip of metal 96 having its opposite end portions turned at right angles, as at 97, said end portions being notched, as at 98. This particular tool is made in various lengths according to the dimensions of the different tiles or elements, that is to say, the length of the tool is substantially the same as the width of the particular tile or element to be set in the wall or floor installation so that it may be placed with one notched end portion in engagement with a bracket already located on the wall or floor base in substantially the same relation to the bracket in which the tile or other element is applied thereto in the installation, and then bringing the bracket to be positioned into engagement with the opposite notched end portion of the tool. However, the spacing tool or gauge per se does not enter into the present invention and, obviously, may be of any desirable character.

After the brackets are positioned and secured in place the adjacent wall or floor surface where the tiles or other elements are to be set is covered with a suitable cementitious material into which the notched marginal portions of the elements are pressed and at the same time being engaged with the brackets as hereinbefore described, the brackets affording a secure anchorage for the tiles or other elements as a reinforcement in addition to the cohesion between the body of cement and the inner face portions and marginal flanges of the elements.

Special floor tiling and fastening means therefor are illustrated in Figures 33 to 39, inclusive. As shown, the respective floor tiles are of general hexagonal form and preferably somewhat elongated, that is to say, two opposite longitudinal sides are considerably longer than each of the two edges of their convergent end portions. However, so far as the present invention is concerned, these special floor tiles may be of true hexagonal shape or of other polygonal form.

In some adaptations of the invention body portion 99 of the floor tile may be plain flat and enameled or otherwise coated on its exposed surface, but in all instances the tile is provided with downturned marginal flanges 100 at two opposite sides, said flanges being provided with open-ended slots 101 at their opposite ends and preferably notched, as at 102, intermediate
their ends. This downturned marginal flanging is provided not only for supporting the body of the tile 99 in spaced relation above the floor base but is also for the engagement of a special fastener to be presently described. While the tiles may be plain flat-faced, as just above described, it is here noted that in the installation illustrated in Figures 33 to 35, inclusive, the tiles are provided with a surface covering or padding 103 of rubber or other suitable characteristic material of substantial thickness and possessing the requisite wearing qualities as well as providing the desired cushioning effect. This covering 103 is shaped to conform to the shape of the tile body. 15 on which it is cemented or otherwise fastened, and retaining flanges 104 are preferably struck up from the convergent end margins of the tile body as shown more clearly in Figure 37.

For finishing the longitudinal side portions of a given area or panel where the floor tiling is installed, longitudinally divided half-tile units are provided, as at 105 in Figure 33, said half-tile units, of course, being provided with a single edge portion at the convergent end margins similar to the flanges 100 provided on the full-size tile illustrated in Figure 37. For end finishing the installation, as shown in Figure 33, quarter-size corner units 106 are provided, said units 106 corresponding to one half of a unit 105 divided transversely. For fitting in the end portions of the installation between the corner units 105 special half tiles 107 are provided in the general shape shown in the assembly in Figure 33 and in detail in Figures 38 and 39, said tiles 107 being substantially one half of a full size tile divided transversely. It is here further noted that, in addition to providing the respective tiles with plain flat faces, either enameled or similarly coated or with the superposed padding material 103, the tiles may have corrugated surfaces as shown in Figures 38 and 39 or they may be otherwise contoured. So, too, in addition to the opposite side flanging 100 of the units 105 and 107 similarly to the flanging 100 of the full size tile, these units 106 and 107 are also provided with downturned flanges 108 on their convergent edge portions, this particular flanging 108 being for engagement with a special fastener as well as supporting the tile in spaced relation to the floor base as will be later more fully described, for which purpose the forward ends of said flanges 108 terminate some distance short of the apex of the tile.

A special fastener for the full size tiles is illustrated in Figures 33 to 36, inclusive. This fastener, designated generally by the numeral 109, comprises an elongated bridge member, the opposite end portions of which are offset from the body portion, as at 110 and 111, respectively, said offset end portions 110 and 111, respectively, being apertured for the reception of securing nails or screws by which the device is fastened to the floor base. The body portion of the device is provided with an elongated longitudinal slot 112 of a length somewhat greater than that of the respective flanges 100 of the tiles and of a width to receive therein the abutting flanges 100 of two laterally adjoining tiles in the assembly. Here noted is the under side of the bridge member 101 is a latch element 113 having a reduced shank portion 114 projected through an opening provided therefor in the right-angular portion of the device between the main body portion and the offset end portion 111. The extreme outer end portion of this latch ele-
ament 113 is offset, as at 115, in the direction of the offset end portion 111 of the body portion of the fastener so as to slide in contact with said portion 111, said end portion 115 of the latch element being relevent upon itself with looped ef-
fect to provide a knob-like tuberance to be grasped by the fingers of the operator in shifting the latch element in locking the tiles to the fastener, as will now be described.

In the installation illustrated in Figure 33, the several fasteners 109 are first located and nailed, screws being provided to the floor base throughout the area where the tiles are to be applied, and with the fasteners so positioned the respective tiles 99 are placed in correlated pairs with their abutting marginal flanges 100 inserted in the longitudinal slot 115 of the bridged body portion of the fastener 109. With the abutting flanges 100 thus inserted in the slotted portion of the fastener, the two laterally adjoining tiles are moved simultaneously lengthwise of the slot 112 in the direction away from the end portion of the slot where the latch element 113 is mounted. Shorter longitudinal slots 112 of the tiles simultaneously until the adjacent registered open-ended slots 114 of the abutting flanges 100 have engaged the body portion of the fastener in the region of the adjacent end portion of its slot 112. The latch element 113 is then moved inwardly into engagement with the opposite slotted end portions 101 of the abutting flanges 100, the actuation of the latch being effected by the operator grasping the knob portion 115 with his fingers or obviously applying a suitable pushing tool thereagainst. In this connection, it is here noted that the offset end portion 111 of the latch element 113 is apertured for the reception of a securing nail or screw, the aperture being brought into registration with either a separate aperture provided therefor in the end portion 111 of the fastener 109 or the same aperture in said portion 111 before the securing nail or screw for the portion 111 has been applied thereto, it being understood that in such latter instance the fastener 109 is first secured to the floor base by nailing or screwing only the opposite end portions 110 thereto and there being ample clearance in the flared space between the adjacent tapered end portions of the pair of assembled tiles for the application of the securing nail or screw to the cooperating end portions of the fastener 109 and the latch ele-

In an installation as illustrated in Figure 3 the several fasteners 109 are obviously used in staggered relation throughout the tiled area.

The special longitudinally divided half tiles 105 are anchored in the assembly by the fasteners 109, that is, to say, said tiles 105 are provided with marginal flanges 100 the same as the tiles 99 except that, of course, the flange is provided only at the side of the tile 105 which abuts the adjoining tile 99. For anchoring the quarter end tiles 106 and special half end tiles 107, however, a double elongated longitudinal slot 112 at opposite sides of the bridged portion of the fastener, in which slots the convergent marginal flanges 103 of the half tiles 107 are inserted with interlocking effect so as to prevent endwise movement of the tiles, it being understood that in ordinary floor installation these end tiles 107 are extended under overhanging wall portions which prevent endwise movement of the tiles. Inasmuch as there
are sometimes only two of the quarter tiles 108 and not more than four thereof used in the ordinary floor installation, the cohesion between said tiles and the body of cement in which they set may be sufficient to hold the tiles in place, but, if desired, a special fastening fastener may be provided, such fastener being obviously made in the form of the bridged fastener 109 in the immediate region of its offset end 110 and adjacent body portion having the open-ended marginal slots 117, said modified anchoring fastener having a supporting effect on the marginal flanging of the tiles 108 as well as holding the tiles against endwise movement due to the interlocking engagement of the diagonal end flanges of the tiles in the notched portions of the anchoring fastener. This modified anchoring fastener being substantially identical with the end portion of the fastener 109 with the rest of the fastener removed, no further detailed illustration thereof is deemed necessary in the drawings.

It is understood that the floor tiling hereinabove described is set in cement the same as are the previously described tiles and elements and that the same character of tiles illustrated in Figures 33 to 39, inclusive, may be applied in a wall assembly as well as in a floor assembly for which they are particularly intended. While in some cases, the respective tiles are placed in close contact with each other in the assembly, it is obvious that the tiles may be spaced a slight distance apart, as indicated at 118 in Figure 33, said spaces being filled with the cementitious material upon which the tiles are set in the assembly or, obviously, with special grout mixture in the same manner in which ordinary earthen or composition tiles are set.

In accordance with the invention as herein disclosed, a system of tiling for wall and floor surfacing is produced wherein the respective tiles and other elements are accurately and symmetrically positioned and securely anchored in place by special fastening means in addition to the body of cement in which the tiles and other elements are set. There is a particular advantage in that the tiles and other elements are made in relatively light weight from metal or other suitable material possessing the requisite tensile strength and rigidity in lieu of the usual earthen and composition tiles which are merely set in the body of cement on the wall or floor surface without any supplemental anchorage of the character of that employed in accordance with the present invention.

While the several forms and arrangements of the tiles and fasteners herein illustrated and described embody practical adaptations of the invention, it is understood that considerable further modification may be made therein without departing from the spirit and scope of the invention as defined by the appended claims. The invention, therefore, is not limited to the specific forms and arrangements shown in the accompanying drawings.

What is claimed is:

1. Unitary wall and floor tiling, comprising marginally flanged surfacing elements, the flanges of which are inturned and provided with flared marginal notches, and elongated anchoring brackets having provision at an end portion thereof for supporting attachment to a wall or floor base, said brackets also having body portions offset at their attaching end portions away from the wall or floor base in supporting relation to the inner faces of the adjacent marginal flange of said tile element, thence rebent upon itself in spaced relation to said right-angular portion to receive therein the abutting flange of an adjoining tile element, the remaining portion thereof being bent right-angularly to provide an offset end portion in alignment with said first described offset end.
portion and having provision for supporting attachment to the wall or floor base.

6. The bracket structure as set forth in claim 5 and further describing the bracket as having reduced neck portions adjacent its offset wall or floor attaching end portions to interfit with retentive engagement in contiguous notches of the engaged marginal flanges of said tile elements.

7. An anchoring bracket for wall or floor tile units of right-angular cross section and having notched inturned marginal flanges, comprising a metal strip bent to provide a body portion conforming with the cross sectional form of the tile unit and supportingly engageable with the inner face portion of the unit, said bracket having offset end formation for supporting attachment to a wall or floor base, the bracket having reduced neck portions adjacent its ends to interfit retentively in the notched flange portions of the attached tile unit.

8. In a wall surfacing system of the character described, substantially rectangular panel elements having outwardly offset base portions marginally flanged and notched, the top and opposite side marginal portions of the panels being flanged inwardly and the top flange being re-flanged downwardly, the side marginal flanges and the re-flanged top flange being notched, and anchoring brackets supportingly attachable to the wall and extending beneath the applied panel and having provision for interfitting retentive engagement in the notched flange portions of the panel.

9. In a wall surfacing system of the character described, substantially rectangular panel elements having outwardly offset base portions marginally flanged and notched, the top and opposite side marginal portions of the panels being flanged inwardly and the top flange being re-flanged downwardly, the side marginal flanges and the re-flanged top flange being notched, and anchoring brackets supportingly attachable to the wall and extending beneath the applied panel and having provision for interfitting retentive engagement in the notched flange portions of the panel, certain of said panels being plain flat and cooperating panels having right-angular corner extensions.

10. A mounting for wall and floor tile elements having notched inturned marginal flanges, said mounting comprising an elongated anchoring bracket having provision at an end portion thereof for supporting attachment to a conventional wall or floor base, said bracket having a body portion offset at its attaching end portion away from the wall or floor base in supporting relation to the inner face of a superposed tile element with provision adjacent said end portion for interfitting retentive engagement in the notched flange portion of said tile element.

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