

June 14, 1949.

A. H. PARSONS
BUILDING CONSTRUCTION

2,473,216

Filed Nov. 14, 1945

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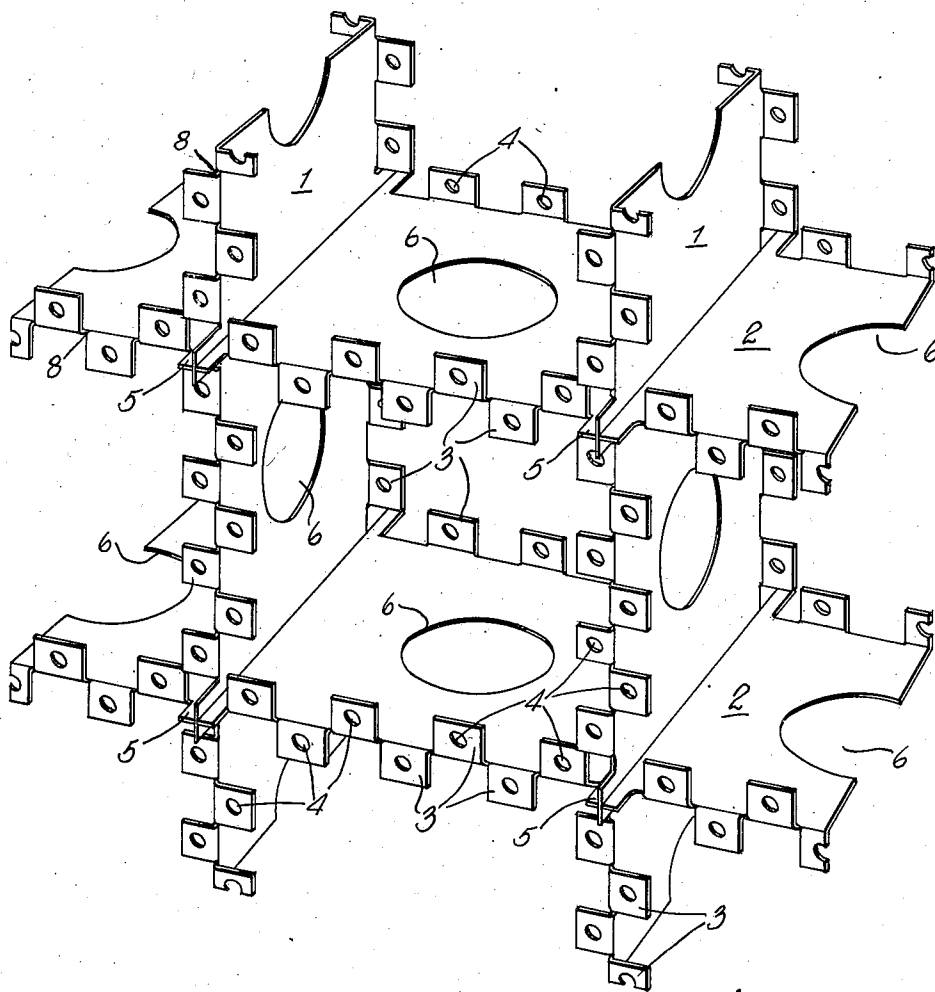


Fig. 1.

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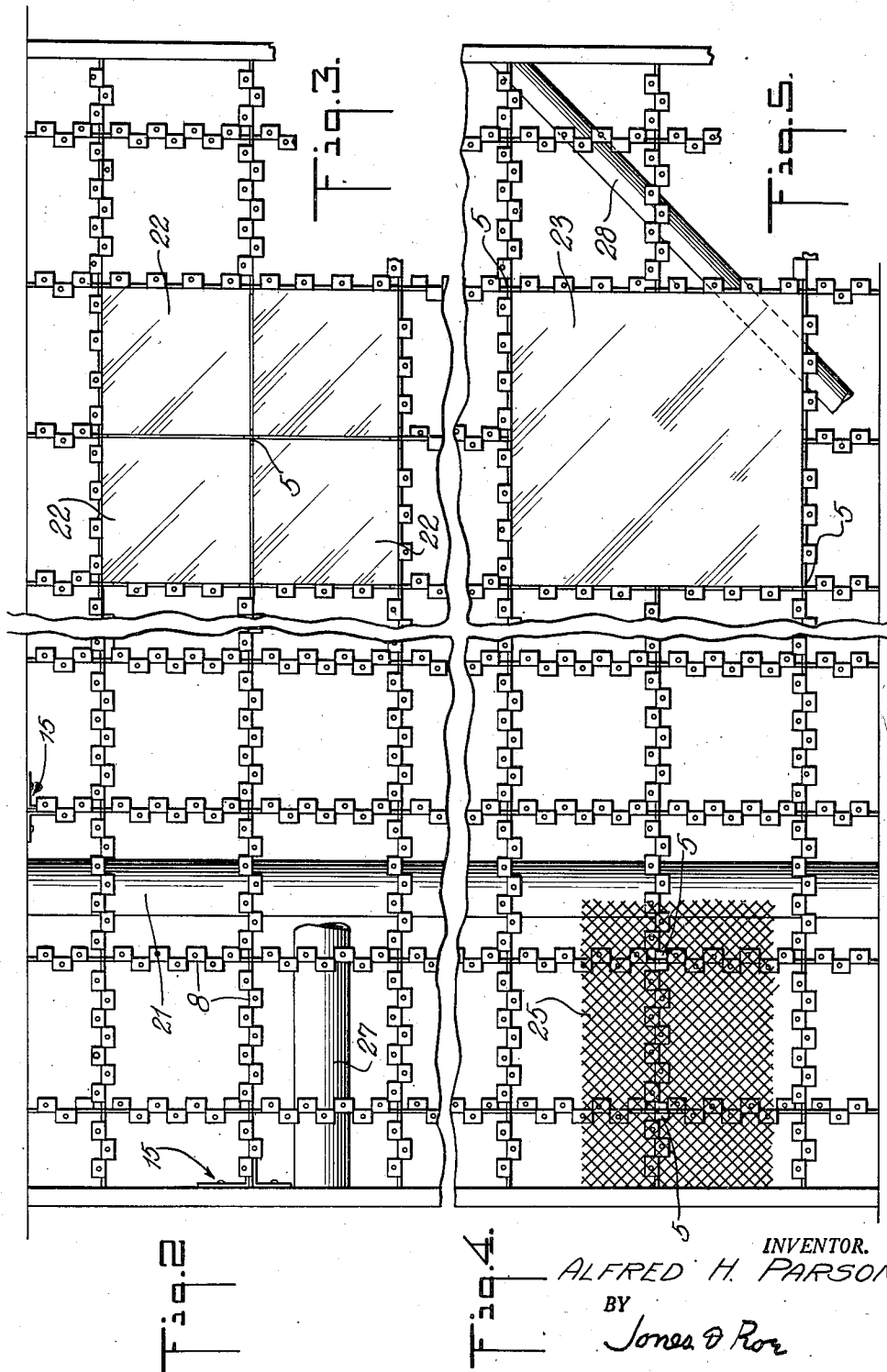
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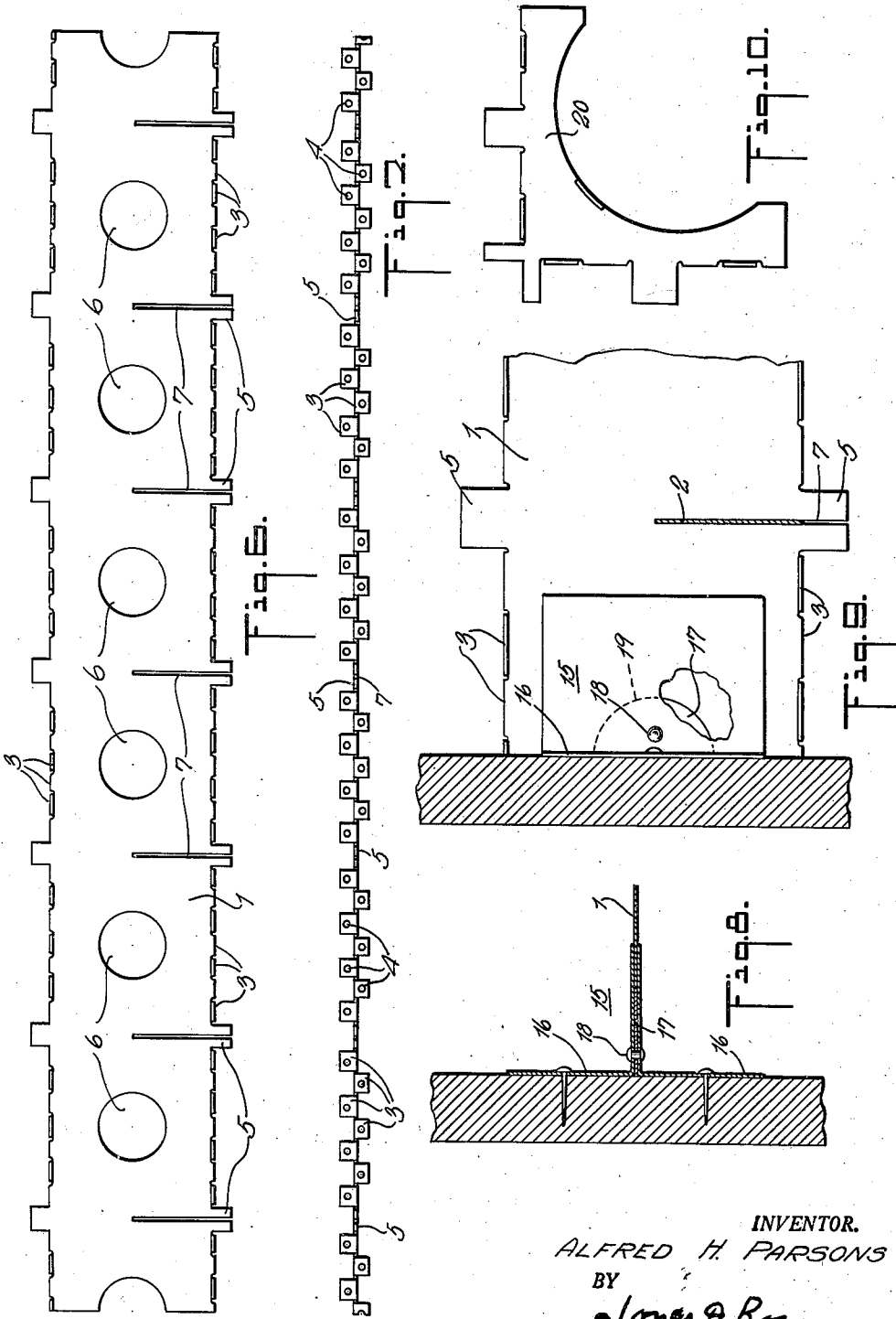
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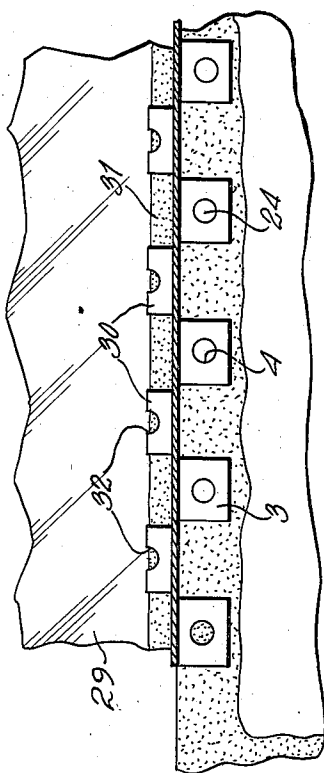


Fig. 12.

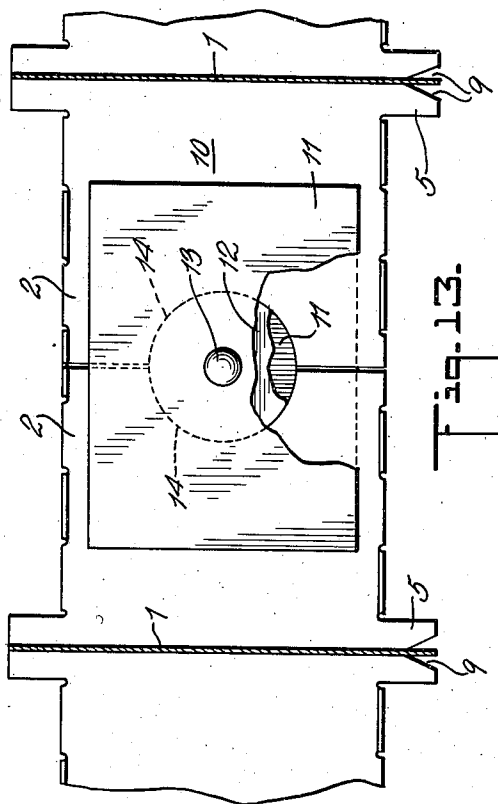


Fig. 13.

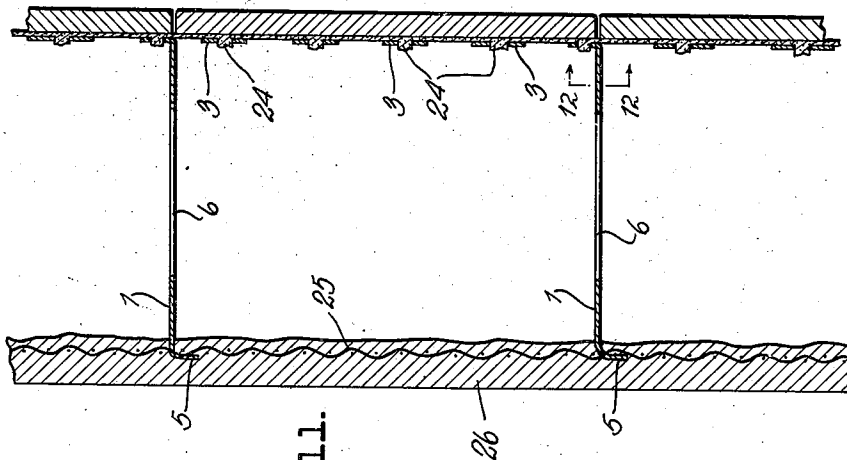


Fig. 11.

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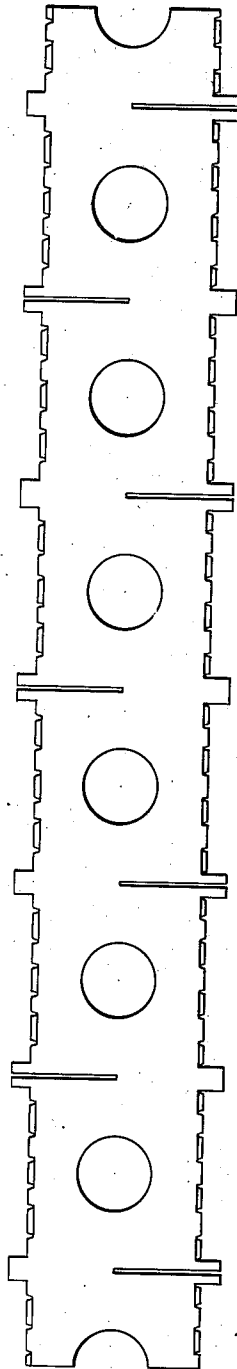


Fig. 14.

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BUILDING CONSTRUCTION

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Application November 14, 1945, Serial No. 628,471

6 Claims. (Cl. 189—34)

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This invention relates to improvements in building construction.

The purpose of this invention is to provide a preformed skeleton framework for a wall, ceiling, partition, or floor which may be fabricated and set-up in sections rigidly joined together to fulfill my desired dimensional requirements. Means are provided, too, whereby the frame will receive any type of facing, as tile, brick, glass, plaster, etc., such means insuring alignment and spacing of the facing units with geometrical precision. Further, the sectional components are equipped with openings through which pipes, columns, lintels, struts, conduits, or the like, may extend, and be concealed from view; and finally, there are refinements in the nature of couplings and stops for the section.

Each section of the preformed frame is composed of plates which are criss-crossed in interlocking relation to simulate lattice work. Fins and flanges are carried by opposite edges of the plates as a medium for fastening tile or other facing, and wire mesh. Intermediate flanges are bendable out of their normal supporting position to permit tile of unconventional size to lie flat against the fins. The fins extend to either side of the outer edges of the plate, and are apertured, thereby affording a liberal backing for the facing, and by reason of the aperture, allowing for keying the fin in plaster or other similar material.

Along the medial body portion of each plate are spaced openings of relatively large diameter, which are in registration transversely, longitudinally and diagonally. Pipes, conduits, etc., may be trained through these openings, as desired, and are thus hidden.

Couplings and stops for the sections will be described presently.

Obviously, the novel frame is also susceptible of being filled with insulation, as rock wool.

In the drawings:

Fig. 1 is a fragmentary perspective view of one of the rectangular partitions.

Fig. 2 is a side elevation of a portion of one section of the frame.

Fig. 3 is a similar view showing the manner in which tile is employed as a facing.

Fig. 4 is a similar view illustrating the application of wire mesh to the section.

Fig. 5 illustrates the incorporation of a single tile of large dimensions.

Fig. 6 is a top plan of one of the plates, and

Fig. 7 is a side elevation of the lower edge of the plate.

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Fig. 8 is a vertical section of a jamb stop.

Fig. 9 is a top plan of the jamb stop.

Fig. 10 is a top plan of a modified corner plate.

Fig. 11 shows a vertical section of a portion of a finished wall.

Fig. 12 is an elevation indicating the manner of employing glass as a facing, and

Fig. 13 is a top plan of the section coupling, partly broken away to show more clearly the seating of the disc.

Fig. 14 is a top plan view of a modified form of plate wherein the kerfs are arranged in alternate relationship on opposite sides thereof.

Like reference characters are employed to designate corresponding parts in the following description.

The frame, as may be best seen in Figs. 1, 2, 6 and 7, is constructed of a plurality of vertical and horizontal sheet metal, for example, aluminum, plates 1 and 2, of any suitable dimensions. Each plate is provided at opposite edges with alternately disposed fins 3, apertured at 4; with corner rectilinear flanges 5, medial openings 6, and transverse kerfs 7, which latter extend outwardly from a central point and bisect the flanges located on one edge.

In assembling, the plates 1 and 2, which by way of example, may be fashioned in four feet lengths, are criss-crossed, with the kerfs 7 of one set of plates embracing the solid portions of another set, so as to present a continuous structure or section of uniform thickness with numerous rectangular partitions 8—see Figs. 1 and 2. If desired, the inner edges of the bisected flanges 5 may be rebated, as at 9, in Fig. 13, to serve as a lead guide for facilitating the joining and interlocking of the plates. Or the kerfs may be formed in alternate relation (not shown) one on one side of the plate and one oppositely and alternately disposed on the other.

The plates of one section are connected to the plates of an adjoining section by means of the coupling 10, shown in Fig. 13, which consists of a pair of superimposed strips 11 and an interposed spacing disc 12, riveted or otherwise connected together at 13. Confronting sides of the strips 11 exert a clipping action on the outer sides of meeting extremities of the plates, while the disc 12 seats itself in the semi circular recesses 14 disposed midway of the edges of the plates, and firmly anchors the joint.

A stop 15, somewhat similar in construction to the coupling 10 just described, is illustrated in Figs. 8 and 9. It comprises a pair of right angular strips 16, one above the other, with an interven-

ing semi-circular disc 17, all riveted or otherwise together at 18. This device is used when abutments or ceilings are encountered, and in such contingencies, the free ends of strips 16 clamp plate 1 and the disc 17 is received by recess 19 to preclude displacement of the connection. This member may also be employed when sills are met.

When a column forms the corner of a wall under construction, angular clips, as 20, may be snapped around the column—and then tile, or other facing added to cover the column—see Fig. 10.

As ultimately set up, the sections, with their supporting vertical columns 21 extending through the openings 6, constitute a preformed frame, over which any desired type of facing may be applied.

Three varieties are exemplified herein: in Figs. 3, 5, 11, and 12, tile is exhibited. Fig. 3 shows relatively small tile 22, wherein all corner flanges 5 are utilized to support the tile; Fig. 5 depicts large tile 23, and here the flanges 5 covered by the tile are bent at right angles to assume the same relative position as fins 3, whereby the tile receiving surface is rendered perfectly flat. It is interesting to note in this connection, and as also may be presumed in the case of veneer brick, that the cement 24, in which the tile is set, protrudes through the apertures 4 and serves as a key—note, particularly, Fig. 11.

In Figs. 4 and 11, is illustrated the manner of sustaining wire mesh 25 by bending the corner flanges 5 to engage the interstices, and thus insure a minimum of "give," and no waste of the mason's time, or of material, in applying plaster 26. It is to be noted that, to secure the wire mesh, corner flanges 5 may be bent in any direction, as the artisan desires.

When occasion dictates, horizontal members 27 or diagonal members 28 may also be trained through the openings 6, as may be observed in Figs. 2 and 5. Any of the members may serve as conduits for soil pipes, electrical cables, telephone wires, or for any purpose.

In Fig. 12, glass 29, is shown as another form of facing. And because of the transparency of glass, the fins 30 are cut in half so that they will not show appreciably above the cement 31, and at the same time, because of the semi-circular recesses 32, still be firmly anchored in the cement.

It is manifest that the invention in its entirety may be utilized for interior partition walls, outside wall construction, for ceilings, and for floors. Being preformed, the work is laid out for the mason, whereby the tile or other facing may be expeditiously applied with precision. Moreover, the frame is fireproof, and lends itself to the incorporation of insulation, as rock wool, whenever it is found desirable.

A particular advantage obtains in connection with outside wall construction, as only briefly described, hereinbefore. Normally, the distance between stud centers is 16 inches—the height varies from 8 to 16 feet. Obviously, when wire lath is employed over the studding—due to the widely separated distance between stud centers—it is rendered flexible, thus causing the mason's work to be exceedingly difficult, as only small quantities of cement or mortar adhere to the lath as the mason is required to work upwardly. With the present invention, this difficulty is eliminated by reason of the fact that the metal lath is secured to the flanges of the sturdily sup-

ported frame, which are relatively short distances apart, thereby reducing the give of the lath to a minimum.

In its broader aspects my invention comprehends the employment not only of the means described, but of equivalent means for performing the recited functions. It is desired to reserve the right to effect such changes as may come fairly within the scope of the appended claims. Moreover, in the claims wherein the word "wall" is used, it is understood to include also a ceiling, floor, or other building frame.

I claim:

1. A building frame of the character described, comprising plates, criss-crossed and interlocked in the same plane, so as to constitute a unitary, continuous structure of uniform thickness, flexible flanges extending rectilinearly and outwardly in the form of a cross from opposite edges of the plates at their points of intersection and right angular fins carried by opposite edges of the plates, the said flanges and fins being adapted to support tile, glass or other material.

2. A building frame of the character described comprising plates, criss-crossed and interlocked in the same plane so as to constitute a unitary, continuous structure of uniform thickness, and to present rectangular partitions of uniform size, said plates having right angular fins carried by the opposite edges of the plates, and rectilinearly extending flanges carried by opposite edges of the plates, and extending outwardly from the right angular fins, said rectilinearly extending flanges intersecting each other in the form of a cross to form supporting means for tile, glass or other facing.

3. A building frame of the character described, criss-crossed and interlocked in the same plane so as to constitute a unitary, continuous structure of uniform thickness, and to present rectangular partitions of uniform size, said plates having right angular fins carried by the edges of the plates, for adhesively attaching thereto tile, glass or other facing, and rectilinearly extending flanges carried by opposite edges of the plates, said rectilinearly extending flanges intersecting each other in the form of a cross to form supporting means for tile, glass, or other facing, the said intersecting rectilinearly extending flanges being adapted to be rendered flat for the frame to accommodate facing of a size larger than the said rectangular partitions.

4. A building frame construction comprising a plurality of structural plates, the plates having spaced openings therein for receiving columns, supports, pipes, wiring or the like, fins and flanges carried by opposite edges of the plates, the fins being disposed right angularly to the plate in opposite directions and the flanges projecting rectilinearly from the plate, and said plate further having kerfs which extend from a point approximately midway thereof through at least some of the flanges on an edge of the plate, the kerfs of one set of plates embracing the solid portion of another set of plates to present a continuous structure having numerous rectangular partitions being adapted to receive tile, glass or other facing material.

5. A building frame construction of the character described comprising a plurality of structural plates, fins and flanges carried by the opposite edges of the plates, the fins being disposed right angularly to the plate in opposite directions, and the flanges projecting rectilinearly from the plates and said plates further hav-

ing kerfs which extend from a point approximately midway thereof through the flanges of the plates, the kerfs of one set of plates embracing the solid portion of another set of plates to present a continuous structure having numerous rectangular partitions of uniform size on both sides of the construction for receiving tile, glass, wire lath or other material.

6. A building frame construction of the character described comprising a plurality of structural plates, fins and flanges carried by the opposite edges of the plates, the fins being disposed right angularly to the plate in opposite directions, and the flanges projecting rectilinearly from the plates and said plates further having kerfs which extend from a point approximately midway thereof through the flanges of the plates in alternate relationship, the plates being criss-crossed and interlocked to present material holding partitions of uniform size on opposing sides of the interlocked construction.

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