

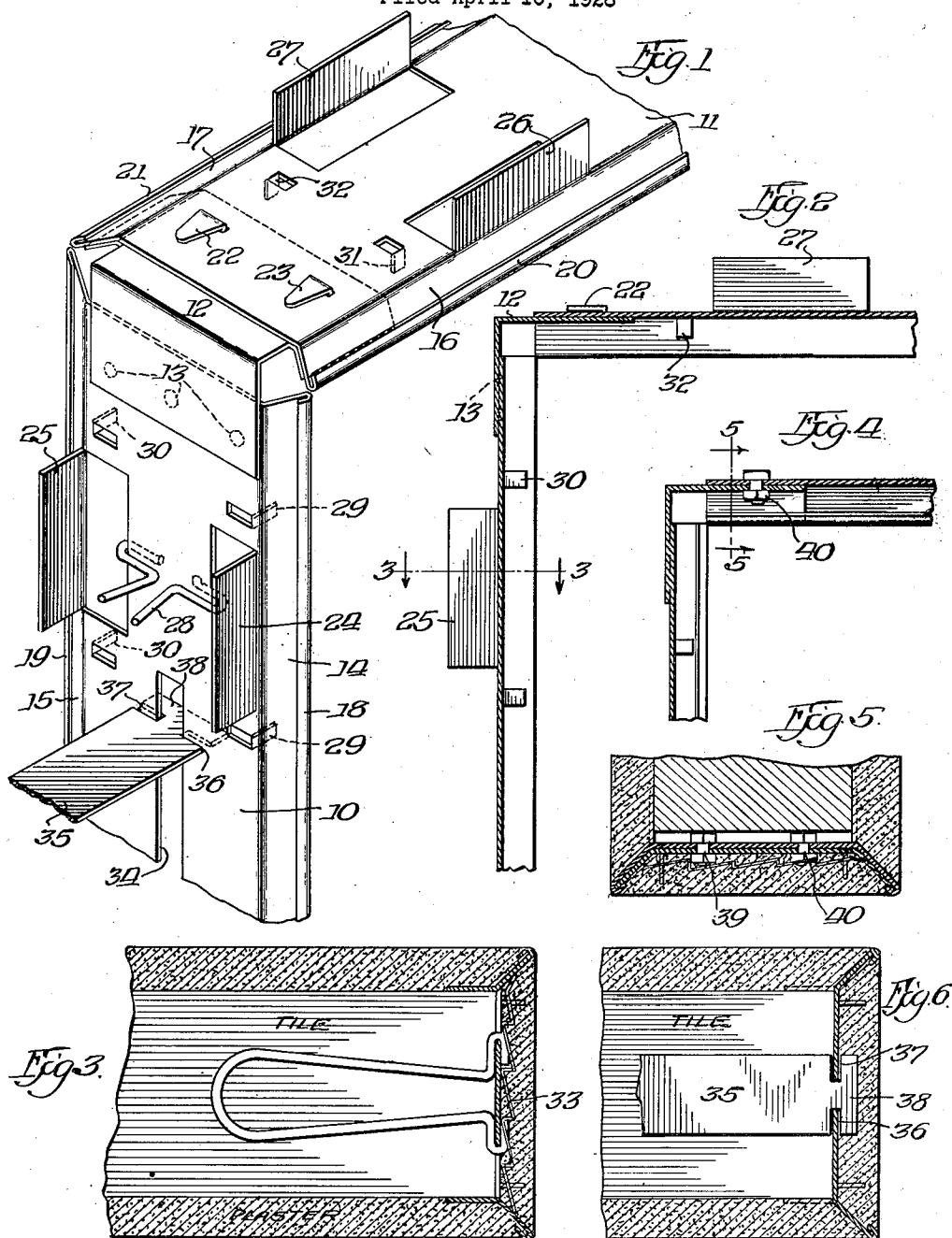
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METAL FRAME FOR OPENINGS

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UNITED STATES PATENT OFFICE.

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METAL FRAME FOR OPENINGS.

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My invention relates to the building art and particularly to metal framing for wall openings.

It is well known in the trade to provide metal or wood devices to define a wall opening, but in my experience many objections have arisen to the use of these devices, for various practical reasons.

In a device of the character required, it is necessary to provide a device that will insure perfect anchorage with the tile or brick adjacent to the opening, there must be perfect alignment, and a strong corner bead, as well as complete rigidity of the entire unit. These requisites are wholly or partially lacking in the opening frames heretofore observed, and it is an object of my invention to provide these and many other structural advantages:

It is of the utmost importance in a device of this character to provide means for insuring accurate installation by an inexperienced workman, and I have endeavored to so construct this device that it can be installed quickly by only a few simple movements.

A further object of my invention is to provide means for maintaining a firm plaster ground in conjunction with the opening frame, which is easily and firmly secured by a simple movement.

Another object of my invention is to provide means associated with the frame, for an anchor which is inserted between the tile in positioning the frame.

These and further objects will appear from a further study of the drawings, attached hereto and made a part hereof; in which—

Fig. 1 is a perspective view of a corner of a metal frame constructed in accordance with my invention;

Fig. 2 is a horizontal sectional view thereof;

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a horizontal sectional view of a modification of the corner construction;

Fig. 5 is a vertical sectional view taken on the line 5—5 of Fig. 4; and

Fig. 6 is a vertical sectional view taken on the line 3—3 of Fig. 2 showing a modified form of anchor.

By reference to the drawings and particularly to Fig. 1, it will be seen that my invention comprises the vertical frame member 10, the horizontal frame member 11, and the right angle joining member 12. The joining mem-

ber 12 is securely welded at the points 13, to the upper part of the vertical frame member, and contacts the under surface of the horizontal member 11. The frame members each have angularly disposed marginal flanges 14, 15, 16, 17 terminating in the backwardly bent corner beads 18, 19, 20, 21 which serve as a plaster defining gauge and corner bead.

For insuring a firm connection between the two right angularly disposed frame members, I provide the tongues, 22, 23 struck out from the web of the horizontal portion of the member 12, and projecting through slits in the frame member 11. When these tongues are bent toward the vertical member they provide a very strong and secure lock against lateral movement.

As a means for insuring perfect alignment of the two frame members with the tile adjacent the opening, I provide the ears 24, 25, 26, 27 bent at right angles to the frame members, the anchor 28, shaped in the form of a loop, with hooks at one end adapted to be inserted over the inner edge of the openings provided by the ears 24, 25, forming an anchor which is received in a tile joint.

As a means for securing plaster around the opening I provide the lugs 29, 30, 31, 32 struck out of the metal in the web of the channel, and projecting at right angles thereto toward the opening. Thus the plaster ground 33 can be readily secured to the inner faces of the channels by hooking over the lugs.

A modified form of anchor attached to the vertical channel, is shown in Figs. 1 and 6, which consists of the longitudinal slot 34 extending vertically in the web of the channel 10, and adapted to receive the anchor 35, having the two notches 36, 37 a short distance below the end head 38. This anchor is secured by merely inserting the notched end into the slot and turning the anchor to cause the notches to fit over the inner edges of the slot.

A further modified form of the corner joint is illustrated in Figs. 4 and 5 wherein the nuts and bolts 39, 40 are used instead of the tongues 22, 23 to insure a more rigid and permanent fit. Also the beads 20 and 21 are bent inward instead of outward as shown in Fig. 1, to serve as a guiding and retaining unit for the flanges of the bent member 12 which are received therein.

The form illustrated in Figs. 4 and 5 is the

more preferred form, it being absolutely rigid and permanent, thus avoiding the possibility of inaccurate work.

Thus it is seen that I have provided a metal frame for openings that embodies all of the requisites of a satisfactory device for the purpose intended. The anchors provide a firm fit with the tile adjacent the opening, the ears insure perfect fit and alignment, the lugs provide a means of securing the plaster ground, and the angularly disposed corner beads provide a plaster defining unit, as well as a corner protection.

Obviously modifications and variations may be made in the device herein disclosed and I do not wish to be limited except as indicated in the appended claims.

I claim:

1. Means for framing wall openings comprising in combination vertical and horizontal frame members, said members being of generally channel shape with the flanges of the channels projecting inwardly toward the opening, means rigid with one of said members for effecting interlocking connection with another frame member at the angle thereof, and a reticulated sheet mounted within said channels and adapted to act as a support for plaster.

2. In combination, vertical and horizontal metal frame members of generally channel shape in cross section, means rigid with one frame member for sliding and interlocking cooperation with a right angularly disposed frame member, the channels of said frame members being open toward the wall opening, lugs formed on said frame members for positioning the same relative to a wall, and lath in said channels for supporting plaster to be applied thereto.

3. In combination a pair of vertical frame members and a horizontal connecting frame member, said frame members being of channel shape in cross section with flanges projecting inwardly at an angle toward the opening, means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls.

4. In combination a pair of vertical frame members, and a horizontal connecting frame member, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, and means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls.

5. In combination a pair of vertical frame members and a horizontal frame member, a right angularly bent corner connection, said corner connection being permanently secured to one of said frames, said frame members being of generally channel shape in cross section with flanges projecting inwardly at

an obtuse angle, and means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls.

6. In combination a pair of vertical frame members and a horizontal frame member, a right angularly bent corner connection, said corner connection being permanently secured to one of said frames and underlying a portion of the other, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, and means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls.

7. In combination a pair of vertical frame members, and a horizontal connecting frame member, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, the margins of said projecting flanges being bent to form a corner bead, and means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls.

8. In combination a pair of vertical frame members and a horizontal frame member, a right angularly bent corner connection, said corner connection being permanently secured to one of said frames, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, the margins of said projecting flanges being bent to form a corner bead, and means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls.

9. In combination a pair of vertical frame members and a horizontal frame member, a right angularly bent corner connection, said corner connection being permanently secured to one of said frames and underlying a portion of the other, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, the margins of said projecting flanges being bent to form a corner bead, and means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls.

10. In combination a pair of vertical frame members and a horizontal connecting frame member, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls, and a plurality of parallel ears struck out of the metal in

said channel and adapted to contact the sides of the tile adjacent to said frames.

11. In combination a pair of vertical frame members and a horizontal frame member, a right angularly bent corner connection, said corner connection being permanently secured to one of said frames, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls, and a plurality of parallel ears struck out of the metal in said channel and adapted to contact the sides of the tile adjacent to said frames.

12. In combination a pair of vertical frame members and a horizontal frame member, a right angularly bent corner connection, said corner connection being permanently secured to one of said frames and underlying a portion of the other, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, the margins of said projecting flanges being bent to form a corner bead, means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls, and a plurality of tile anchors secured to the web of said vertical channel members.

13. In combination a pair of vertical frame members and a horizontal connecting frame member, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls, a plurality of parallel ears struck out of the metal in said channel and adapted to contact the sides of the tile adjacent to said opening, and a plurality of tile anchors secured to the web of said vertical channel members.

14. In combination a pair of vertical frame members and a horizontal frame member, a right angularly bent corner connection, said corner connection being permanently secured to one of said frames, said frame members being of generally channel shape in cross section with flanges projecting inwardly at an obtuse angle, means for supporting plaster within the channels, the flanges constituting a plaster ground for the plaster within the channels and the plaster on the walls, a plurality of parallel ears struck out of the metal in said channel and adapted to contact the sides of the tile adjacent to said opening, and a plurality of tile anchors secured to the web of said vertical channel members.

In testimony whereof I have affixed my signature.

ISAAC A. BAUM.