July 26, 1938. J. TROJANOWSKI 2,125,136

WALL CONSTRUCTION

Filed Sept. 29, 1936 3 Sheets-Sheet 1

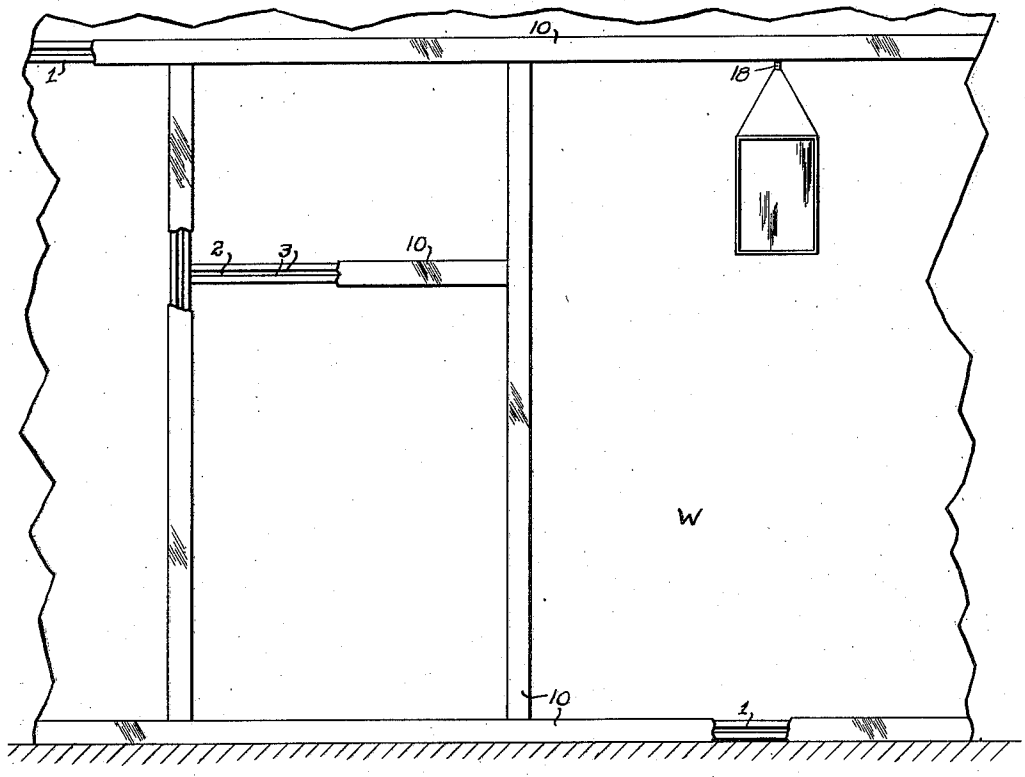


Fig. 1

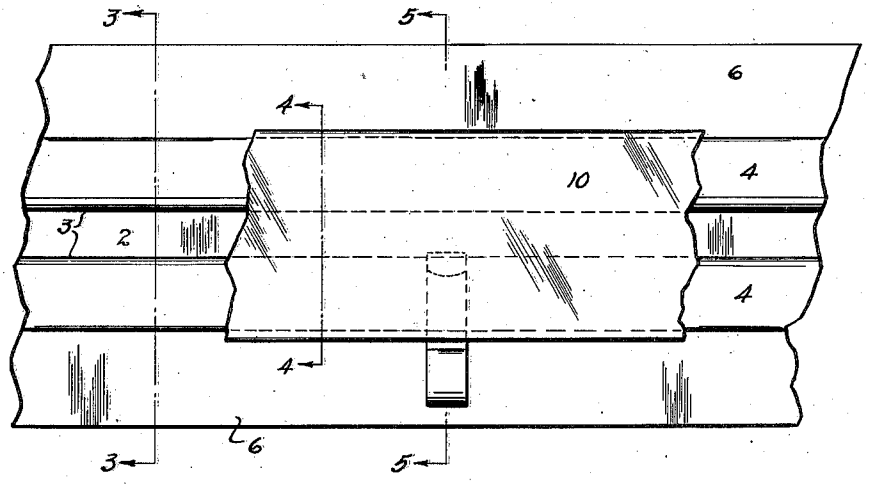


Fig. 2

INVENTOR
JACOB TROJANOWSKI
BY
John Harrison Kennard
ATTORNEY

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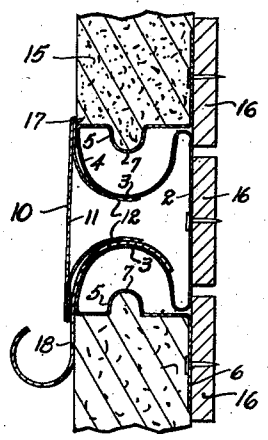


Fig. 5

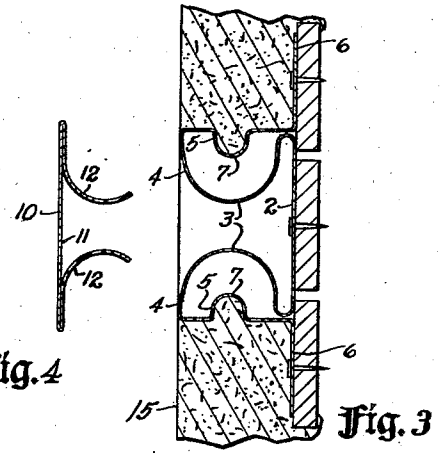


Fig. 4

Fig. 3

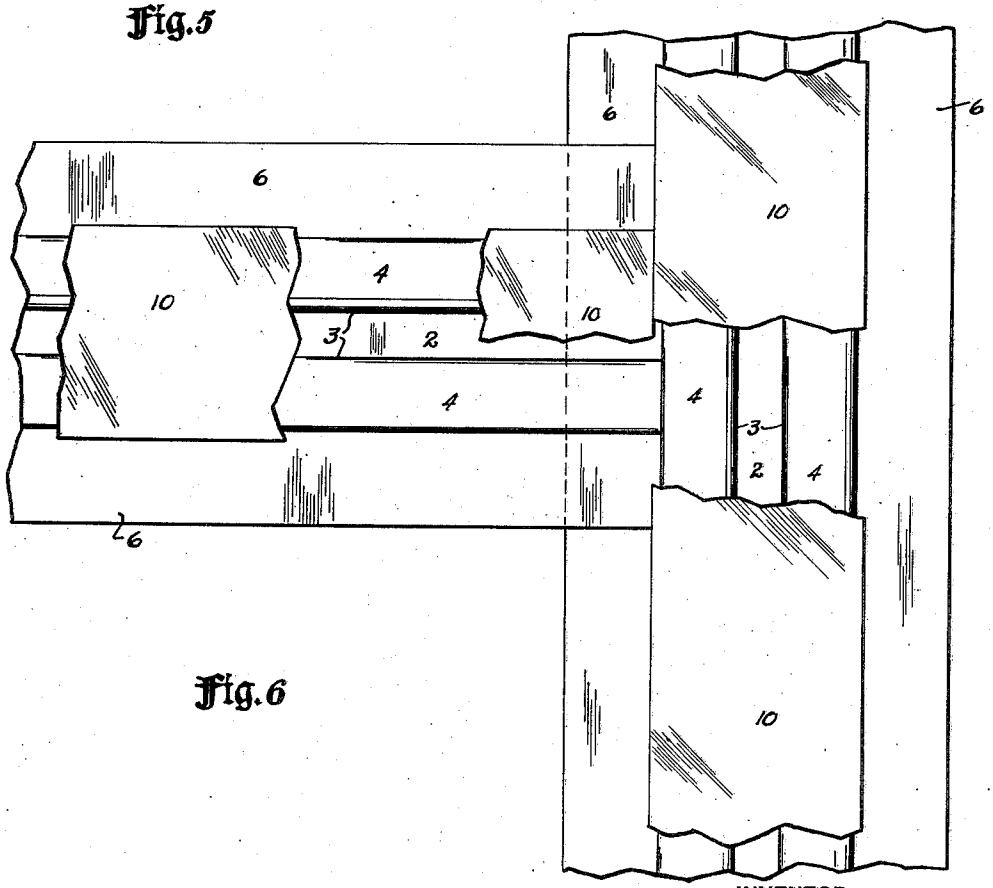


Fig. 6

INVENTOR
JACOB TROJANOWSKI
BY
John Harrow Kennard,
ATTORNEY

July 26, 1938. J. TROJANOWSKI 2,125,136

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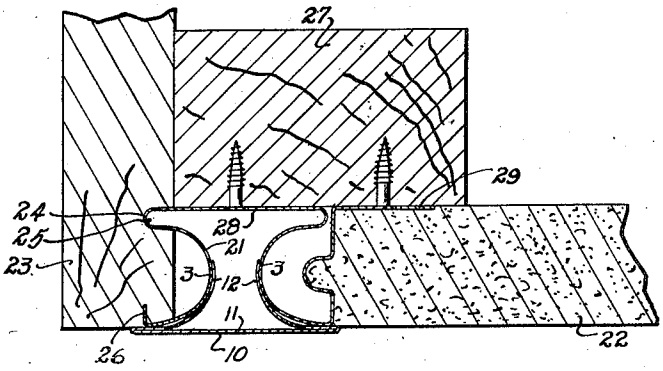


Fig. 7

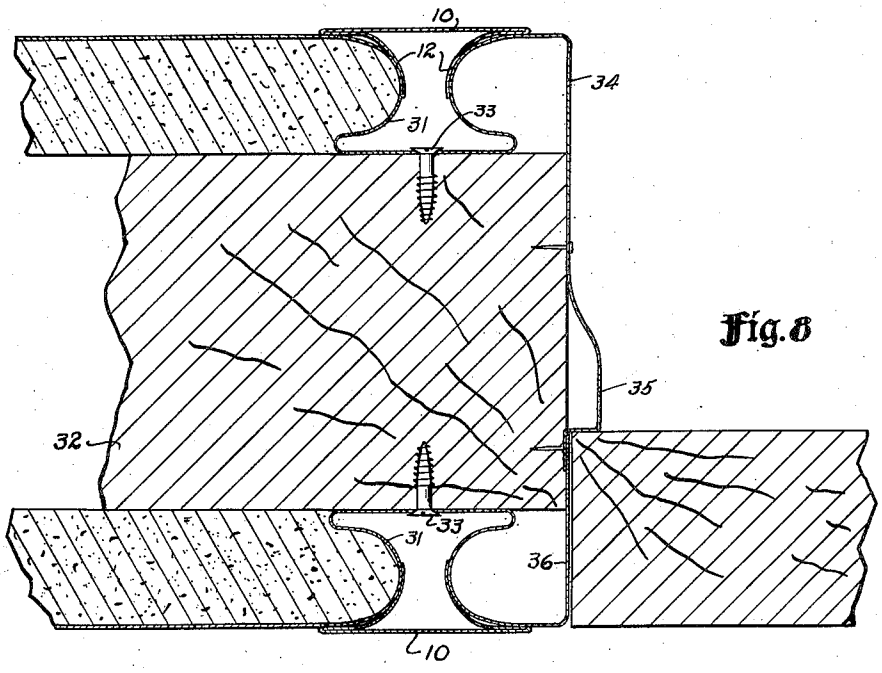


Fig. 8

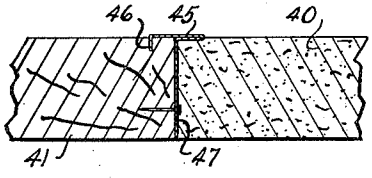


Fig. 9

INVENTOR
JACOB TROJANOWSKI
BY
John Harrow Kennard,
ATTORNEY

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UNITED STATES PATENT OFFICE

2,125,136

WALL CONSTRUCTION

Jacob Trojanowski, Cleveland, Ohio

Application September 29, 1936, Serial No. 103,154

12 Claims. (Cl. 72—125)

This invention relates to wall structures and particularly to a structural frame device to be incorporated in wall structures for framing doors and windows, and for providing molding, splash panels and composite post structures.

One of the principal objects of the present invention is the provision of a frame device which may be incorporated into the wall so as to form substantially an integral part of the wall structure and which, when incorporated into the wall, provides framing for windows and doors, molding, and splash panels which are substantially flush with the finished wall structure and have no exposed dust collecting shoulders.

Another object is to provide a frame device which may be utilized without any appreciable changes in form and construction, for these numerous purposes, as a result of which special frame and panel elements, parts, fittings and the like may be eliminated.

Another object is to provide a structural frame device which is decorative, in which the means connecting the same to the wall structure are concealed, and which, at the same time, provides a suitable conduit for wiring and the like.

Another object is to provide a device of this character which affords a striking guide or gauge for plaster coated walls such that an accurately finished surface may be obtained and the edges of the plaster coating are held securely in place.

Other objects and advantages will become apparent from the following specification wherein reference is made to the drawings, in which:—

Fig. 1 is a fragmentary front elevation of a panelled wall illustrating typical applications of the device for splash panels, wall panels, and molding;

Fig. 2 is an enlarged front elevation of a fragment of the structural frame device showing the component parts in assembled condition;

Figs. 3 and 4 are sectional views of the disassembled component parts of the device respectively and are taken on planes indicated by the lines 3—3 and 4—4 of Fig. 2;

Fig. 5 is a sectional view of the parts of the device in assembled condition and is taken on the plane indicated by the line 5—5 in Fig. 2;

Fig. 6 is a fragmentary front elevation of a horizontally disposed and a vertically disposed frame device showing the junction of the two;

Fig. 7 is a horizontal sectional view of a corner of a wall illustrating another application of the device;

Fig. 8 is a horizontal sectional view through a door frame illustrating another application of the device.

Fig. 9 is a horizontal sectional view of a wall illustrating a molding member for connecting a plaster wall to a wooden wall.

Broadly, the frame device comprises generally a supporting member and a cooperating trim member, the supporting member being fixedly incorporated in the wall structure so as to terminate flush with the finished wall surface and detachably receiving the trim member in a manner such that the trim member likewise lies substantially flush with the finished surface of the wall and conceals the connections between the wall and the supporting member.

Referring particularly to Figs. 1 to 4, the use of the device in connection with a plaster coated wall W for providing a horizontal molding, a base or splash panel, and wall surface panels is illustrated.

The supporting member 1 may comprise a single sheet of metal bent or formed between its lateral margins to provide a readily accessible channel having a base 2 and flanges 3 which are curved and convex toward the interior of the channel. Beginning near the outer or free end portions 4 of the flanges 3, the sheet metal is curved more abruptly so as to extend back toward the plane of the base 2, and lie generally parallel to and spaced from the flanges 3, thus providing a double walled flange, the outer walls of which provide anchor portions 5. The outermost margins of the sheet of metal are then bent to lie in the plane of the base 2, providing supporting fins 6. Each of the anchor portions 5 is provided with a longitudinal corrugation or concavity 7, for purposes later to be described.

The trim member 10 comprises a single sheet of metal having portions folded back on itself part way toward its mid-portion and then outwardly to provide a generally channel-shaped cross section having a base 11 and flanges 12. The flanges 12 are concave outwardly and are adapted to spring in between and lie in juxtaposition with the flanges 3 of the supporting member 1. The flanges 12 extend only part way into the supporting member 1 but firmly secure the trim member 10 in place with the outer surface of the base 11 lying substantially flush with the finished wall surface. The width of the base 11 is preferably such that it overlies and conceals the portions 3 and 4 of the supporting member 1 when the trim member 10 is snapped into place therein.

For the purpose of illustration, the frame device is shown in Figs. 1 to 5 in connection with

a lath and plaster wall. Referring particularly to Fig. 5, a plaster wall comprising a plaster coat 15 trowelled onto the usual wood lathing 16 is shown incorporating the device as a molding. In such an installation, the fins 6 and the base 2 of the channel are secured to the laths 16 by suitable nails so as to mount the supporting member in a horizontal position. The frame member is of such dimensions that when so mounted the ends of the flanges 3, outermost from the lath 16, such as the portions 4, lie in the plane of the outer surface of the finished plaster wall, as indicated at 17. The dimension of the portions 3 and 5, normal to the base 2, are preferably of standard thickness of the plaster coat 15 so that the supporting member 1 provides a suitable gauge for the plaster finish.

Similarly, as illustrated in Fig. 1, one of the supporting members 1 may be used for the splash panel near the base of the wall. These rigid members being of proper dimension and installed carefully, they provide striking guides for gauging the depth of the plaster coating 15. In most instances, also, some of the supporting members 1 are placed vertically to panel the wall. Thus the wall is divided into a plurality of sections of frames, each frame being entirely enclosed by the supporting members 1 which are of equal depth normal to the plane of the wall.

Since the members 1 are of the depth of the plaster, a single striking tool may be moved across the surface of the members to strike the plaster off flush with the outer end portions 4 of the flanges 3, thus assuring a true and accurately finished wall surface.

Due to the concavities 7, the plaster coating 15 molds readily thereinto and is constrained from warping outwardly adjacent the supporting member 1 and from becoming detached therefrom due to shrinkage of the plaster while setting.

After the supporting member is installed in this manner, it is only necessary to snap the decorative trim member 10 into place therein, thus concealing the supporting member entirely and providing a decorative panel substantially flush with the finished surface of the wall.

When such a structure is used as a molding and it is desired to hang pictures and the like therefrom, it is only necessary to install the usual thin metal picture hook 18, as illustrated in Fig. 5, before snapping the trim member 20 into place, the picture hook used being relatively thin metal so as not to hold the trim member 10 out to any appreciable degree from the outer surface of the finished wall.

As mentioned above, due to the channel-like configuration of the supporting member 1 and the fact that it is closed by a metallic trim member 10, a suitable fireproof conduit is provided in which door bell wiring, light cords, and the like may be carried, especially when the device is used for a splash panel at the base of the wall.

In the case of the base panel, however, it is usually desirable that a larger size of the members 1 and 10 be utilized, but in such instance, the dimension normal to the plane of the wall remains the same and equal to the depth of the plaster coating.

When both horizontal and vertical supporting members are to be placed in position, they need only be nailed in place, as illustrated in Fig. 6, with the end of one abutting the side of the other. In Fig. 6, the horizontally disposed supporting member has its end in abutting relation to the side of the vertically disposed supporting member. The adjacent fins 6 of the members thus overlie each other and may be held with common anchor means or nails. The trim members 10 then may be snapped into place so that the lateral edge of one abuts the end of the other so that the horizontal and vertical panels lie substantially in the plane of the wall with no appreciable crack therebetween. Obviously, panelled frames thus provided have no exposed and dust collecting shoulders.

In some instances, the anchor portions 5 of the flanges may be differently configured, depending upon the use. Referring to Fig. 7, for example, a supporting element 21 is utilized at a wall corner, wherein a wood wall joins a plaster or other wall, extending at an angle to the wood wall. In this instance, the plaster coating of the wall, indicated at 22, cooperates with the supporting member 21 as heretofore described. The wood surface wall 23 which is to lie at right angles to the plaster wall 22 is slightly differently cooperated with the member 21. For example, this wall is provided with a longitudinally extending slot 24 which snugly embraces the protruding portion of the member 1 formed by the juncture of the flange 3 and base 2, as indicated at 25. Instead of providing the outer anchor portion 5 between the flanges 3 and fins 6, the outer margin 26 of the flange 3 is bent substantially parallel to the wood wall surface so as to fit into a suitable groove in the end of the wood wall portion.

The member 21 may be secured to a corner post 27 by nailing the base 28 and fin 29 thereof to the post in the manner described in connection with the lathing. The trim member then snapped into place, as described.

Referring next to Fig. 8, a vertical section through a door frame is illustrated. In this form, each of the supporting members 31, corresponding to the members 1; is secured to a corner or end post 32 by suitable screws 33, as illustrated. Instead of the marginal fins 6 and the portions 5 and 7, heretofore described, being provided at both edges of the members 31, the metal of one of the elements 31 is bent at one margin, as indicated at 34, to form a sheathing for the end of the wall and the usual door stop 35. The corresponding margin of the other element 31 is bent to extend parallel to the portion 34 of the other element, as indicated at 36, and forms a continuation of the sheathing beyond the stop 35. Each of the supporting members 31 receives a trim member in the usual manner, thus providing a door jamb which is substantially the same width as and substantially flush with opposite faces of the partition wall. If desired, however, for providing such a door frame, the two supporting members 31, together with the portions 34, 35 and 36 may be formed integrally with each other.

Referring to Fig. 9 a molding member for connecting a plaster wall 40 to a wooden wall 41 is illustrated. In this form of molding member the element 45 is formed of a single piece of strip metal and having portions folded back on themselves intermediate the ends of the said strip, and then each end of the strip bent downwardly to provide a substantially T-shaped member having a tongue 46 which is driven into the wooden wall 41 and attachment portion 47 which lies along the edge of the wooden wall and may be secured thereto by means of suitable nails or screws.

In this form the molding member is first secured to the wood wall and then the plaster wall

is applied and brought substantially flush with the outer surface of the molding member in order that a substantially flat uniform wall surface may be obtained.

It is apparent from the foregoing description that the devices illustrated may be used conveniently for the purposes suggested and other purposes, thus effecting a substantial saving in the cost of wall structures by elimination of special parts and fittings. Furthermore, since the supporting members are fully concealed, they may be made of relatively inexpensive metal, the more expensive and decorative metal or finish being necessary only on the trim members.

Having thus described my invention, what I claim is:

1. A structural frame device comprising a sheet of metal shaped to provide a supporting member and having a base, double wall flanges extending therealong and having inwardly protruding shoulder portions, and fins on the flanges lying in the plane of the base, a trim member comprising a sheet of metal shaped to provide a complementary channel having a base and flanges extending therealong and cooperable with the said shoulder portions to detachably secure the trim member to the supporting member with the base of the trim member overlying and concealing and resting against the flanges of the supporting member, and of substantially the same width as the spacing of the outermost ends of the flanges.

2. A structural frame device comprising a sheet of metal shaped to provide a supporting member having a base, flanges on lateral margins of the base extending generally normal to the base and portions convexed toward the lateral mid-portion of the member, portions of the metal contiguous to the outer margins of the flanges being curved back toward the base and disposed generally parallel and in spaced relation to the flanges and providing anchor portions, the outermost margins of the said sheet providing fins contiguous to the inner extremities of the anchor portions and disposed in the plane of the base, and a trim member of sheet metal having flange portions received in the first member and engaging the said convexed portions thereof and securing a trim member thereto with its outwardly exposed surface substantially flush with the outermost edges of the flanges of the supporting member.

3. In a frame device and wall structure combination including a plaster coated wall having supporting means, a channel shaped supporting member secured to the wall supporting means and having flanged portions extending outwardly from the supporting means and terminating substantially flush with the outwardly exposed face of the wall, a trim member having a base portion and portions received within the support between the flanges thereof, and detachably connecting the trim member thereto with the base of the trim member overlying and concealing the supporting member and juxtaposed thereagainst, and having its outer surface substantially flush with and lying in the plane of the exposed surface of the wall.

4. In a frame device and a plaster coated wall structure combination including supporting means for the plaster coat, a channel member having a base and flanges and secured to the supporting means with the base thereagainst and the flanges extending outwardly from the plane thereof, a plaster coating adherent to the supporting means and embedding the channel member exteriorly for the full depth of the flanges, and a trim member detachably received in the channel member and having flat outer surface portions overlying and concealing the channel member and the juncture thereof with the plaster coat.

5. In a frame device and plaster coated wall structure combination including supporting means for the plaster coat, channel members having flanges and being secured to the supporting means with the flanges extending normal to the finished wall surface a distance equal to the depth of the plaster coat and providing a frame and striking gauge for the said plaster coat, a trim member having a base and spring flanges thereon receivable in the channel for securing a trim member to the channel, said base and spring flanges being related to dispose the exposed surface of the trim member substantially flush with the plane of the finished wall surface and in concealing relation to the channel member when the spring flanges and said channel are connected.

6. In a frame device and plaster coated wall structure combination including supporting means for the plaster coat, channel supporting members, each having a base and outwardly extending flanges and secured to the supporting means by its base and the flanges of said members defining an enclosed frame equal in thickness to the thickness of the finished plaster coat, a plaster coat on the supporting means and embedding the members for the full depth of the flanges so that the flanges are flush with the outer plane of the frame to provide a striking gauge for the plaster coat, and trim members connected to and overlying and concealing the supporting members.

7. A partition wall construction including an upright end post, supporting means therefor, upright channel elements adjacent the corners of the end posts and open toward the plane of the side faces of the finished wall and terminating outwardly substantially flush with said side faces, said elements having portions extending from the plane of said side surfaces and sheathing the end of the wall, and decorative trim members having securing portions received in the channel members and connected internally thereto, and having flat outer wall portions overlying and concealing the channel members when the securing portions are connected in the channel members.

8. In a wall construction including a wall having an opening therethrough, channel members having flanges normal to the side surfaces of the finished wall and terminating flush with the said side surfaces, said channel members providing the end limits of the wall and defining and framing the opening, and trim members having securing portions received and secured in the channel members and having flat portions overlying and concealing the channel members when the trim members are secured in the channel members.

9. In a wall construction including a wall having an opening therethrough, channel members having flanges normal to the side surfaces of the wall and terminating flush with the side surfaces, said channel members providing the end limits of the walls and defining and framing the opening, the flange of each channel member nearest the opening having a contiguous metal portion extending therefrom transversely of the wall and sheathing the sides of the opening.

10. In a wall structure comprising supporting means and wall coatings having outer surfaces angularly disposed with respect to each other to

define a corner, a channel member having a base portion and flanges extending therefrom substantially normal to the base portion, said channel member being secured to the supporting means with the flanges outwardly and terminating in the plane of one of the outer coating surfaces, the flange adjacent the other coating being anchored thereto, and said other coating terminating at its end in the plane of the said one of the outer coating surfaces, and a trim member having a flat base and securing flanges extending therefrom and received in the channel and securing a trim member to the channel with the base in the plane of the said one of the outer coating surfaces.

11. In a wall construction including a wall having an opening therethrough, a channel member having a base portion and flanges extending outwardly therefrom toward and to a side surface of the wall and lying flush with said side surface, a portion of the one of the flanges which is nearest the opening having a portion extending inwardly transversely of the wall and forming an end wall portion defining the adjacent limit of the opening, and a trim member having resilient portions yieldably received between the flanges, and an exposed portion overlying and concealing the channel.

12. In a wall construction including a wall having an opening therethrough, a channel member having a base portion and flanges extending outwardly therefrom toward and to a side surface of the wall and lying flush with said side surface, the one of the flanges which is nearest the opening having a portion extending inwardly transversely of the wall and forming an end wall portion defining the adjacent limit of the opening, a trim member having resilient portions yieldably received between the flanges for securing the trim member to the channel member and having an exposed portion overlying and concealing the channel member, and the other flange of the channel member having a portion extending along said side surface of the wall with its outer surface flush with said side surface of the wall.

JACOB TROJANOWSKI.