

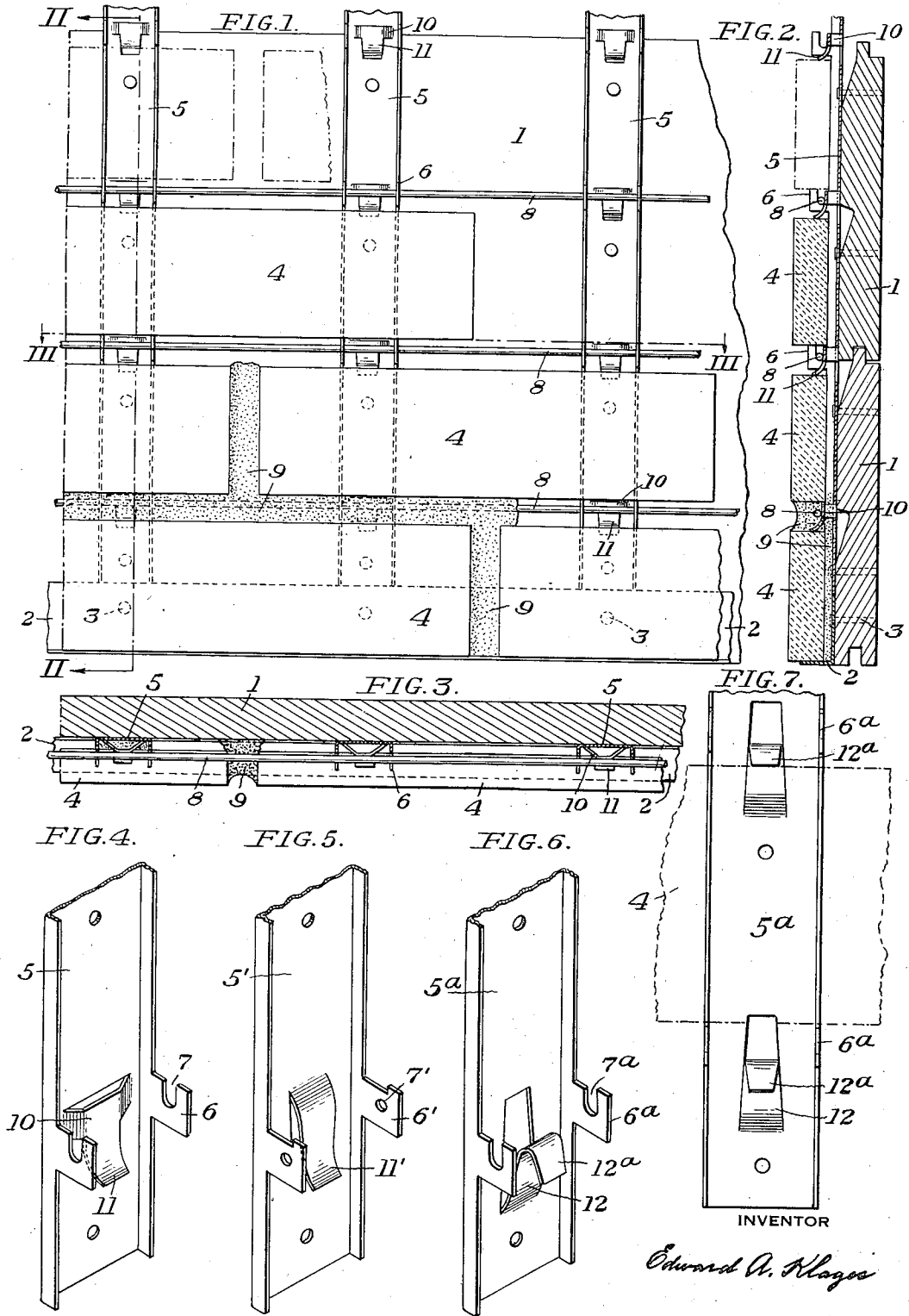
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WALL STRUCTURE

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WALL STRUCTURE

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My invention relates to the application of brick, tile, or other veneer,—especially of the thinner forms,—on the walls of frame houses and other buildings, and the objects of the invention are: to provide suitable metal strips for supporting and holding the veneer in place and of such design that they can be readily and quickly positioned and attached so that the courses of bricks or tiles when laid will be uniformly level and a like distance apart; to facilitate the proper end-spacing of the bricks or tiles when necessary to crowd or spread them as the length of walls may require; to provide a ready and secure means for holding the bricks or tiles in place preliminary to pointing with mortar, and to provide ties to hold and reinforce the mortar.

This application is a continuation in part of my earlier filed application, Serial No. 658,558, filed February 25, 1933.

With the above objects in view, the invention consists in the construction and novel combination of parts hereinafter described in a full, clear, and exact manner, and referred to in the accompanying drawings forming part of this specification. It is also understood that minor changes within the scope of the appended claims may be made without departing from the invention itself.

Figure 1 is a front view of a portion of a frame wall showing the application of my invention as it would appear at the base or above each wall opening.

Figure 2 is a cross-section of the wall along the line II—II of Figure 1.

Figure 3 is a cross-section of the wall along the line III—III of Figure 1.

Figure 4 is a perspective view of a portion of one of the channels.

Figure 5 is a perspective view of a portion of a channel showing a modification of the web and flange projections.

Figure 6 is a perspective view of a portion of a channel showing a further modification constituting the present preferred form of the channel.

Figure 7 is a front view of a portion of a channel similar to that shown in Figure 6, showing in broken lines the relative position of a brick when set and held in place between the flange and web projections.

Referring to the drawings, and particularly to Figures 1 to 4 inclusive, the numeral 1 designates the weather boards or other external sheathing of the structure to be covered. In this invention, a horizontally extending angle 2 is attached by

means of nails or other suitable fasteners to the base of each wall as well as immediately above each wall opening. One leg of the angles is directed upwardly and rests against the face of the walls, while the other leg projects laterally from the walls and forms a ledge to support the initial row of bricks or tiles.

Secured to the face of the walls at regularly spaced intervals, by means of nails or other suitable fasteners, and extending upwardly from the top of the angle 2 is a series of channel members 5 reaching to the top of the wall surface to be covered. The channels are preferably formed of relatively thin sheet metal because the flanges impart rigidity thereto. At the sides of the channels 5, and at uniform vertical intervals, are projections or lugs 6 for supporting the courses of bricks or tiles above the initial course, the vertical distance between the lugs being sufficient for the insertion of bricks reasonably wider than the standard size. The lugs 6 are provided with slots 7 into which may be set horizontally extending wire rods 8 to form ties for holding and reinforcing the mortar 9 used between the several courses of bricks or tiles. The channels are also provided with similarly spaced web projections or tongues comprising a bridge portion 10 and an integral lower lug 11, as shown best in Figures 3 and 4. The lugs 11 project a greater amount below the bottoms of the lugs 6 than the variation in the width of the bricks or tiles to be used and are capable of a little greater vertical displacement while still retaining the flexibility and resilience necessary to bear against the upper surfaces of the bricks or tiles and hold them in place as set on the supporting members. It is therefore obvious that, in applying the veneer it is necessary that the lugs 11 should be sprung upward by one edge of the bricks or tiles before the opposite or lower edges will clear the ledge of the angle 2 or the lugs 6, as the case may be, and allow the bricks or tiles to be shoved back in place. As shown in the drawing, the top edges of the lugs 6 may be higher at the outer ends in order to provide a better grip on the bricks or tiles and prevent any forward tilting of the bricks when the bottom surfaces are less than 90 degrees with the backs.

In Figure 5, I have shown a slightly modified construction. In this figure, 5' designates the channel. The sides or flanges are provided with outwardly projecting lugs 6' corresponding to the lugs 6 of the form previously described. I have shown these lugs as being provided with holes 7' in place of slots 7. It is obvious that

either holes or slots may be used for retaining the tie-wires in place. In this figure, there is also shown a slightly modified form of the tongue, this tongue 11' being struck directly from the center of the channel rather than being formed with the bridge portion 10 as previously described.

In Figures 6 and 7, I have shown the present modified construction. In these figures, 5a designates the channel. The sides or flanges are provided with outwardly projecting lugs 6a similar to the lugs 6 of the channel member first described. Instead of the web projections 10, 11, and 11', previously described, I have provided a lug having its base 12 integral with the channel web and its upper portion 12a bowed outwardly and downward so that the lip will engage and hold the upper edge of any brick or tile of reasonable variation in width that may be forced against it and shoved in place on the supporting members. It is evident that this form of the web projection or lug not only possesses inherent flexibility and resilience throughout its entire length, but that the hooked portion allows a greater vertical movement of the lip and provides a more ready and much better grip than is possible with either of the other forms of web projections previously figured and described.

As the length of walls frequently requires the crowding or spreading of the bricks to suit their various lengths, and in order to readily facilitate and determine their proper end-spacing, as well as the corresponding spacing of the channels, I provide that the angle 2 be punched or otherwise marked at regular intervals based on the center-to-center dimension of the bricks or tiles when laid to standard. It will thus be clear that, when the center-to-center spacing of the bricks is to be standard, the center line of the channels should be directly in line with the nail holes or nails 3 in the angles, as shown in Figure 1.

In the application of brick or tile veneer to the walls of buildings by means of this invention, it will be advantageous to complete the work of attaching the angles and channels before beginning the setting of bricks, the first course of which, both at base of walls and above each wall opening, may be backed by a layer of mortar sufficient to fill the entire space back of the bricks and even with the front of the channel flanges so as to form a solid and sealed backing, as shown in Figure 2. When desirable to set a course of bricks on end, as is frequently the case above wall openings, the channels must be attached accordingly and the angles may be omitted as may also be done at the base of walls when so desired. The angles and channels, as well as the nails or other fasteners, should be coated to resist oxidation, unless made of non-oxidizing metal.

I claim:—

1. A structural member for use in the construction of veneer walls, comprising a channel having regularly spaced hook portions struck outwardly therefrom, said hook portions terminating in substantially straight brick-engaging edges and being resiliently yieldable in the direction of the longitudinal axis of the channel to accommodate irregularities in the bricks.

2. A structural member for use in the construction of veneer walls, comprising a channel having regularly spaced means for supporting the bottom edges of bricks and similarly spaced resilient, inverted hook portions thereon, said hooks consisting of a shank portion attached at

its lower end to the web of the channel and having a bowed upper portion terminating in a downwardly extending lip for engaging and holding the upper edge of a brick.

3. A structural member for use in the construction of veneer walls, comprising a channel having regularly spaced rigid means for supporting the bottom edges of bricks and similarly spaced resilient, inverted hook portions thereon, said hooks consisting of a shank portion attached at its lower end to the web of the channel and having a bowed upper portion terminating in a downwardly extending lip for engagement with the top edge of a brick.

4. A structural member for use in the construction of veneer walls, comprising a channel having regularly spaced lateral means for supporting the bottom edges of bricks and similarly spaced resilient, inverted hook portions thereon, said hooks consisting of a shank portion attached at its lower end to the web of the channel and having a bowed upper portion terminating in a downwardly extending lip for engagement with the top edge of a brick, the vertical distance between the lateral supports and the lip of the hook element next above being such as to engage and hold any brick within suitable variations in width that may be shoved in place on the lateral supports.

5. A veneer wall structure comprising a plurality of surfacing blocks and a series of spaced vertically extending channels back of the blocks, the channels with means thereon for supporting the lower edges of the blocks and with inverted hook elements adapted to resiliently engage the upper edges and hold the blocks in place; tie-rods between the courses of blocks and supported in tie-rod engaging means in the channels, and mortar between the blocks and covering or embracing the tie-rods.

6. A structural member for use in the construction of veneer walls, comprising a channel having vertically rigid, outwardly projecting brick-supporting elements spaced approximately equal to the width of the bricks to be set thereon, and similarly spaced resilient elements to engage and bear against the upper edge of each brick as set in place.

7. A structural member for use in the construction of veneer walls, comprising a channel having pairs of lateral, outwardly projecting brick-supporting elements spaced approximately equal to the width of the bricks to be set thereon, and similarly spaced resilient elements to engage and bear against the upper edge of each brick as set in place.

8. A structural member for use in the construction of veneer walls, comprising a channel having pairs of lateral, vertically rigid, outwardly projecting brick-supporting elements spaced approximately equal to the width of the bricks to be set thereon, and similarly spaced resilient elements to engage and bear against the upper edge of each brick as set in place.

9. A structural member for use in the construction of veneer walls, comprising a channel having pairs of lateral, vertically rigid, outwardly projecting brick-supporting elements spaced approximately equal to the width of the bricks to be set thereon, the tops of the lateral elements being higher outwardly to prevent any forward tilting of the bricks when placed thereon, and properly spaced resilient elements to engage and bear against the upper edge of each brick as set in place.

10. A veneer wall structure comprising in combination a series of vertically extending channels having spaced pairs of lateral, rigid, outwardly projecting brick-supporting elements and similarly spaced resilient elements, and bricks supported on the rigid elements and held at their tops by the resilient elements.

11. A wall structure comprising in combination a series of spaced vertically extending channels having properly spaced pairs of lateral, outwardly projecting brick-engaging elements adapted to engage the lower edges of bricks forward of their backs and form a rest therefor; similarly spaced resilient elements adapted to engage the upper edges of bricks and hold them in place, and bricks resting on the lateral elements and held at their tops by the resilient elements.

12. A wall structure comprising in combination a series of spaced vertically extending channels having lateral, properly spaced, vertically and outwardly extending elements for supporting bricks and having tie-rod supporting means therein, the channels also having similarly spaced resilient elements to engage the upper edges of bricks; bricks set on the lateral projections and held in place by the resilient elements, and horizontally extending tie-rods between the adjacent courses of bricks, the tie-rods being supported and secured by the tie-rod engaging means in the lateral projections.

13. A wall structure comprising in combination a series of spaced vertically extending channels having lateral, properly spaced, outwardly projecting elements for supporting bricks and having tie-rod supporting means therein, the channels also having similarly spaced resilient elements to engage the upper edges of bricks; bricks set on the lateral projections and held in place by the resilient elements; horizontally extending tie-rods between the adjacent courses of bricks, the tie-rods being supported and secured by the tie-rod engaging means in the lateral projections, and mortar between the bricks and covering or embracing the tie-rods.

14. A wall of brick or the like comprising a vertically extending series of channels having properly spaced rows of lateral, vertically rigid projections for supporting the bricks, and similarly spaced resilient projections for engaging and holding the tops of the bricks; tie-rods between the courses of bricks and passing through said lateral projections, the said projections being provided with openings for the reception thereof, and mortar between the bricks and covering or embracing the tie-rods.

15. A wall of brick or the like comprising a vertically extending series of channels having properly spaced rows of lateral projections for supporting the bricks and similarly spaced resilient projections for engaging and holding the tops of the bricks; tie-rods between the courses of bricks and passing through said lateral projections which are provided with openings for the reception thereof, and mortar between the bricks and

covering or embracing the tie-rods, the said wall also being provided with horizontally extending angles at the bottoms of said channels thus forming a supporting ledge for the first course of bricks at the base of the wall as well as above each wall opening.

16. A wall of brick or the like comprising a vertically extending series of channels having properly spaced rows of lateral projections for supporting the bricks and similarly spaced resilient projections for engaging and holding the tops of the bricks; tie-rods between the courses of bricks and passing through said lateral projections which are provided with openings for the reception thereof, and mortar between the bricks and covering or embracing the tie-rods, the said wall also being provided with horizontally extending angles at the bottoms of said channels to form a supporting ledge for the first course of bricks at the base of the wall and above each wall opening; mortar between the backs of the bricks placed thereon and the vertical leg of the angles, and the angles having means thereon whereby the proper spacing of the channels and bricks may be facilitated and readily determined.

17. A structural member for use in the construction of veneer walls, comprising a vertically extending channel having side flanges thereon, rigid lugs projecting outwardly from the flanges of the channel at regularly spaced intervals and resilient tongue members projecting outwardly from the web of the channel at similarly spaced intervals, the spacing of the lug and tongue members being alternated whereby a brick or tile may be set on the lug members and have its upper edge engaged by the next succeeding tongue member.

18. A structural member for use in the construction of veneer walls, comprising a channel having properly spaced, rigid supporting lugs projecting outwardly from the sides thereof, the said lugs being higher at the outer ends and with openings for the insertion and support of tie-rods, and having similarly spaced resilient tongues projecting outwardly from the channel web, the lugs and the tongues being alternated.

19. A structural member for use in the construction of brick veneer walls, comprising a vertically extending channel, regularly spaced supporting lugs projecting outwardly therefrom, and similarly spaced resilient tongues projecting outwardly from the channel, the lugs and the tongues being alternated.

20. A structural element for use in the construction of veneer walls, comprising a channel having regularly and properly spaced supporting elements projecting therefrom on which succeeding courses of blocks are adapted to be rested, said channel also being provided with similarly spaced resilient tongues which are alternated with the supporting elements, each tongue being located at such a distance above the supporting elements next below as will suit the width of any block to be used thereon.

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