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BLOCK CONSTRUCTION

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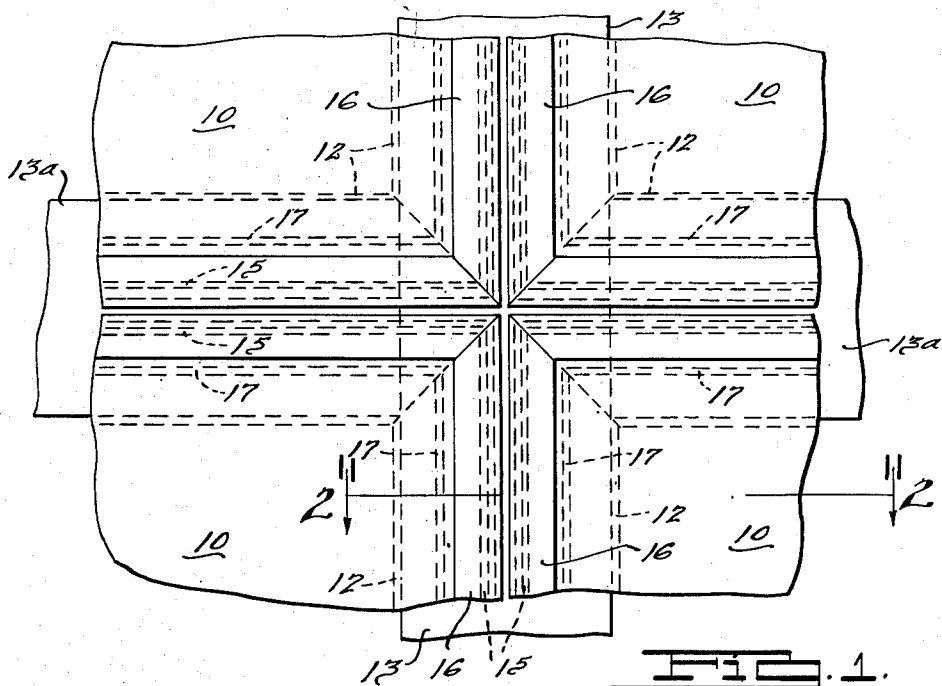


FIG. 1.

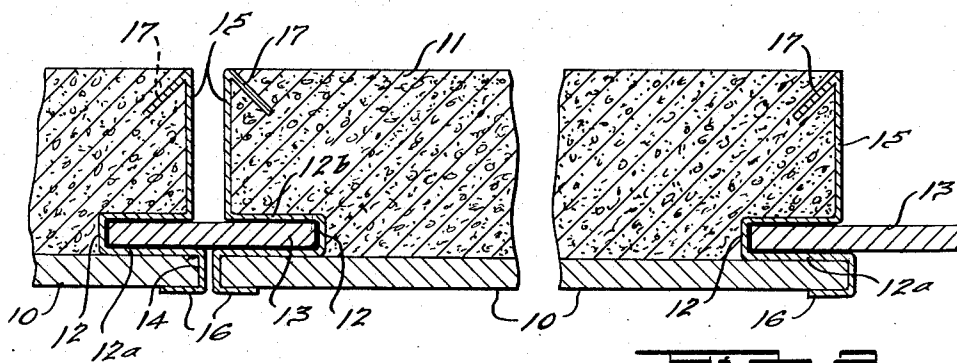


FIG. 2.

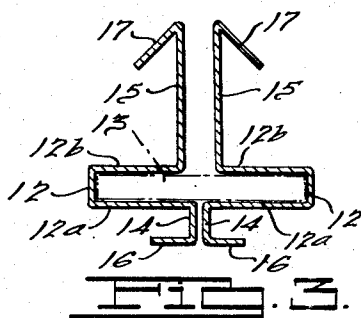


FIG. 3.

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**BLOCK CONSTRUCTION**

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4 Claims. (Cl. 72-36)

This invention relates to building construction and in particular to improvements in a building unit or block and means for connecting and spacing a number of similar units or blocks in the formation of a wall for example.

One type of building unit in which the present invention may be embodied comprises a facing element, as for example a rectangular sheet steel element having a porcelain enameled face, and a body of concrete, mortar, or other suitable construction material formed on the back side of the facing element.

An object of the present invention is to provide an improved construction in such a building unit or block having an edging which provides a boundary or form within which the body is molded and a portion engaging the edge of the facing to provide a trim molding therefor, the edging having an edgewise opening channel therein cooperable with the channel of the edging of a similar unit to receive a spacer strip therein when the two units are arranged edge to edge with their edgewise opening channels confronting each other.

The aforesaid edgewise opening channels are preferably located adjacent the back of the facing element and the spacer strip preferably fits snugly within the cooperating channels so as to connect the edge-to-edge units and to prevent relative forward or rearward movement therebetween and also to provide a batten or weather seal between the adjacent edges of the units immediately rearward of the facing elements. By suitably selecting the width of the spacer strip, the desired spacing between adjacent units is readily determined. Thus the present invention provides a simple economically formed building unit or block and readily applied means for varying the spacing between adjacent units or blocks so as to permit wide latitude in the selection of building units of proper area for use with a given wall area and to compensate for inaccuracies in construction of the wall or deviations thereof from its specified dimensions.

Another object is to provide an improved edging for a building unit of the foregoing nature, the edging being readily formed, as for example by rolling operations from strip stock, to provide a channel element adapted to receive a spacer strip as aforesaid and having generally oppositely directed flanges extending outward from near opposite sides of the channel mouth. One flange extends forward and is formed to provide a trim molding channel element opening oppositely from the first named spacer receiving channel element and adapted to receive the edge of the facing element snugly therein. The other flange extends rearward and is dimensioned to comprise a boundary or retaining border around the aforesaid body of the block at the back of the facing element.

In a preferred construction, the rearward flange extends inward from the base of the trim molding channel, i. e. in the direction of opening of the latter or inward with respect to the edge of the facing element, and is preferably provided with portions adapted to project into the molded body so as to secure the edging and body rigidly together. By this construction, the building unit is readily assembled and fabricated as described in detail hereinafter.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

Fig. 1 is a fragmentary front elevation of a wall facing embodying the present invention.

Fig. 2 is a section taken substantially in the direction of the arrows along the line 2-2 of Fig. 1.

Fig. 3 is a sectional view similar to Fig. 2, showing two adjacent edging members prior to assembly with their respective building units, the spacer strip for connecting the two edgings being illustrated in phantom.

It is to be understood that the present invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

Referring to the drawings, a fragmentary portion of a wall facing embodying the present invention by way of example is illustrated comprising a number of building units or blocks of generally rectangular plan arranged with their edges in vertical and horizontal alignment. The adjacent corners of four similar blocks are shown in Fig. 1, each block comprising in the present instance a facing plate or element 10 of any convenient area, usually approximately one to ten square feet, and of any suitable construction material. A customary plate 10 comprises a sheet steel plate painted or coated with a weather proofing material, as for example a porcelain enamel on its front face, although sheet aluminum, stainless steel, plywood, or suitable thermosetting or thermoplastic materials will be employed as desired. Adjacent the back of the facing 10 is a comparatively thick body 11, such as concrete, plaster, mortar or the like, or a suitable sound and thermal insulating material, also of generally rectangular section dimensioned to conform substantially to the area of plate 10.

Extending completely around each block along the edges thereof is a formed edging strip, Fig. 3, of a suitable strip material, such as stainless steel which affords adequate strength and resistance to the weather, thermoplastic materials or aluminum also being feasible in particular applications. The preferred edging strip shown comprises an edgewise opening channel portion 12 having a forward side 12a adjacent the back of the plate 10 and a generally parallel side 12b spaced rearward sufficiently to permit insertion of a retainer or spacer strip 13 or 13a snugly into the channel 12 as described below. Also comprising portions of the edging strip and extending forward and rearward respectively from the sides 12a and 12b at the mouth of the channel 12 are flanges 14 and 15. The flange 14 lies across the adjacent edge of the plate 10 and terminates in a trim molding strip 16 snugly overlapping said edge. Thus as indicated in Fig. 2, the edges of the plate 10 are snugly confined within the trim molding channel formed by the strip elements 12a, 14, 16 bounding the block. The flange 15 closely bounds the edge of the body 11 and terminates in an inboard flange 17 embedded in said body to secure the same and edging strip together.

Also as indicated the flange 15 is offset inward from the adjacent edge of the plate 10, so as to expose a portion of the base of the trim molding channel 12a, 14, 16 offset outward or edgewise from the body 11. By virtue of this construction, assembly and fabrication of the block is facilitated. Prior to formation of the body 11, a suitable length of the edging strip is arranged along each edge of the plate 10 with said edge confined within the trim molding channel 12a, 14, 16 as indicated in Fig. 2, the opposite ends of each edging strip being mitered as shown in Fig. 1 so as to abut and complete a right angle corner with the mitered end of the adjacent edging strip. Thereafter the abutting mitered ends are suitably joined as for example by welding or brazing. The assembled facing plate framed by the edging strips is then placed face down on a plane support and clamped thereto by clamps pressing downward on the portion of the rear wall 12a which is offset outward from the flange 15 and is thereby readily accessible for engagement with a suitable clamp. Thereafter the material of the body 11 in a soft condition is poured on the back of the plate 10 within the confine of the boundary flange 15, the assembly being vibrated or

not as desired during the pouring. Upon hardening or setting of the body 11, the block is complete. Although the block is described herein by way of example comprising the molded body 11 secured to the edging strip by means of the inbent flange 17, it will be readily apparent that the present invention is not necessarily limited to use with a molded body 11, since the body 11 may be readily preformed in other ways and secured to the edging strip by other means than the flange 17.

Blocks formed in accordance with the present invention are particularly suitable for use as a wall facing. In one application by way of example, a number of the blocks are preferably arranged edge to edge in vertical columns along the plane of a wall to be faced, with their edges aligned and locked against forward or rearward movement relative to each other by means of a retainer or spacer strip 13 or 13a inserted snugly into each pair of confronting channels 12. Preferably a single long vertical spacer strip 13 extends within the confronting channels 12 of each pair of adjacent columns along the entire columnar height. In this case, a number of short horizontal spacer strips 13a, Fig. 1, are inserted into the confronting horizontal channels 12 of adjacent vertically spaced blocks so as to extend between each adjacent pair of vertical spacers 13.

The spacers 13, 13a may be of any suitable rigid material such as comparatively heavy gage stainless steel which affords the necessary weather resistance and strength to support the weight of panels superimposed thereon. By virtue of the spacers 13, 13a fitting snugly within the confronting channels 12, a substantially weather proof seal or batten is provided immediately to the rear of adjacent edges of the plates 10. Likewise the spacers 13, 13a afford readily applied means to vary the spacing between adjacent blocks without weakening the wall or increasing the exposure of the space between blocks to the weather, merely by selecting spacers 13, 13a of suitable width parallel to the wall surface. The cumulative effect of varying the spacing slightly between each pair of adjacent blocks thus permits a given number of blocks of fixed area to provide a facing for any one of a number of walls varying appreciably in area, without recourse to cutting the blocks.

I claim:

1. In a wall facing for a supporting wall structure, a plurality of panels having spaced juxtaposed edges and arranged over the area of said wall structure, each panel comprising a forward facing sheet, a rigid backing layer of hardened plastic material engaging the back surface of said facing sheet in reinforcing relation, and an edging strip circumscribing said panel along its edges, said edging strip comprising a forward channel embracing the edges of said sheet in supporting relation and also comprising an edge-wise opening channel recessed into said backing layer, said edge-wise opening channel having a base and rearward wall seated solidly against the material of said backing layer and also having a forward wall seated solidly against the marginal back portions of said sheet and comprising the rearward wall of said forward channel, the edge-wise opening channels of juxtaposed panels confronting each other, and means spacing and interconnecting each pair of juxtaposed panels comprising a rigid spacer strip adapted to support the panels of said wall facing superimposed thereabove each spacer strip snugly filling the confronting channels of the juxtaposed panels spaced thereby and having opposite edges seated solidly against the opposed bases of said confronting channels and having forward and rearward sides seated solidly against the forward and rearward walls respectively of said confronting channels.

2. In a wall facing for a supporting wall structure, a plurality of panels having spaced juxtaposed edges and arranged over the area of said wall structure, each panel

comprising a forward metal facing sheet having a porcelain enamel coating on its forward surface, a rigid backing layer of molded cementitious material engaging the back surface of said facing sheet in reinforcing relation, and an edging strip circumscribing said panel along its edges said edging strip comprising a forward channel embracing the edges of said sheet in supporting relation and also comprising an edge-wise opening channel recessed into said backing layer, said edge-wise opening channel having a base and rearward wall seated solidly against the material of said backing layer and also having a forward wall seated solidly against the marginal back portions of said sheet and comprising the rearward wall of said forward channel, the rearward wall of said edge-wise opening channel having an outer flange extending to the rear of said backing and around the edges thereof in contact therewith, thereby to comprise the mold for said backing, the edge-wise opening channels of juxtaposed panels confronting each other, and means spacing and interconnecting each pair of juxtaposed panels comprising a rigid spacer strip adapted to support the panels of said wall facing superimposed thereabove and have sufficient tensile strength to be susceptible of being pulled endwise as a unit from said channels, each spacer strip snugly filling the confronting channels of the juxtaposed panels spaced thereby and having opposite edges seated solidly against the opposed bases of said confronting channels and having forward and rearward sides seated solidly against the forward and rearward walls respectively of said confronting channels.

3. The combination in a wall facing as set forth in claim 1 wherein said panels are arranged in straight rows and the edges of the panel in any one row include straight edge portions parallel to that row and in linear alignment with corresponding straight edge portions of the other panels in that row, and wherein the spacer strips include long strips parallel to said rows and short strips transverse to said rows, each long strip extending along the aligned straight edge portions of a plurality of panels and having sufficient tensile strength to be pulled as a unit endwise along said channels.

4. The combination in a wall facing as set forth in claim 1 wherein said panels are arranged in straight rows across a given region of the area of said supporting wall structure, the edges of the panel in any one row include straight edge portions parallel to that row and in linear alignment with corresponding straight edge portions of the other panels in that row, the spacer strips include long strips parallel to said rows and short strips transverse to said rows, each long strip extends along the aligned straight edge portions of a plurality of panels and having sufficient tensile strength to be pulled as a unit endwise along said channels, each short strip extends from one long strip to the next adjacent parallel long strip, and said spacer strips are unsecured to said supporting wall structure within said given region.

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