

Feb. 23, 1954

E. S. CLUTTER
WALL BUILDING UNIT

2,669,861

Filed Feb. 10, 1950

2 Sheets-Sheet 1

Fig. 1.

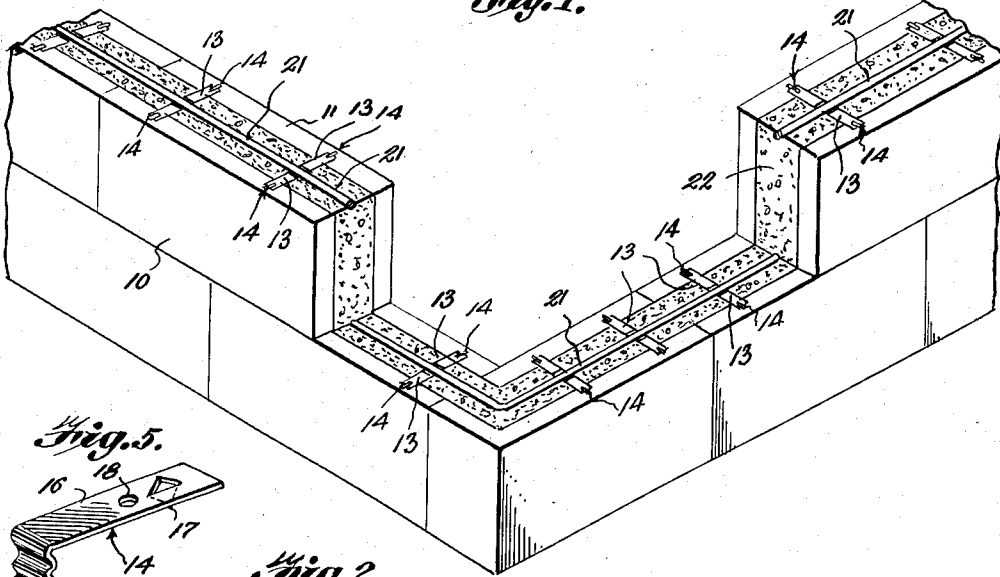


Fig. 5.

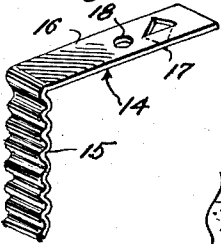


Fig. 2.

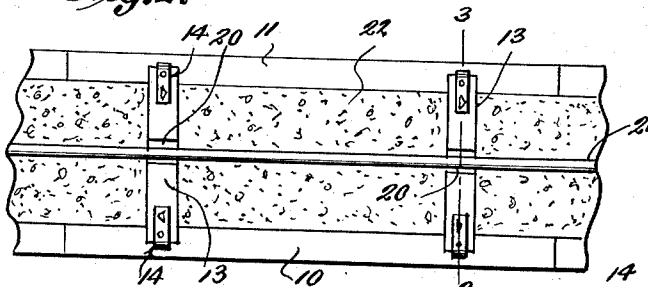


Fig. 3.

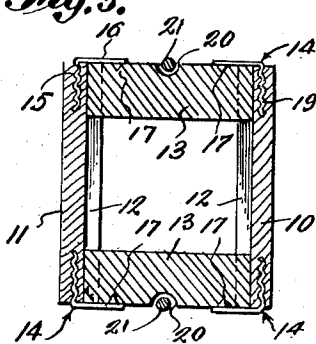


Fig. 4.

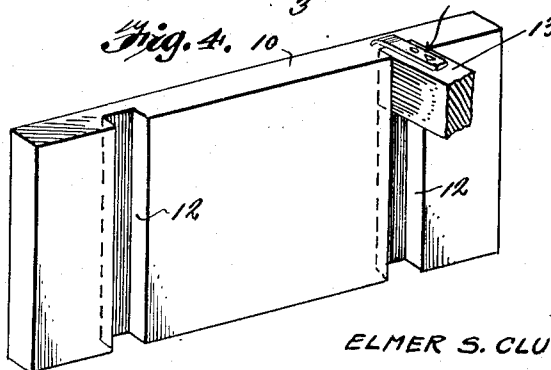
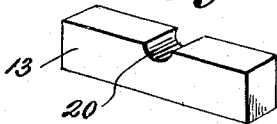


Fig. 6.



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Fig. 7.

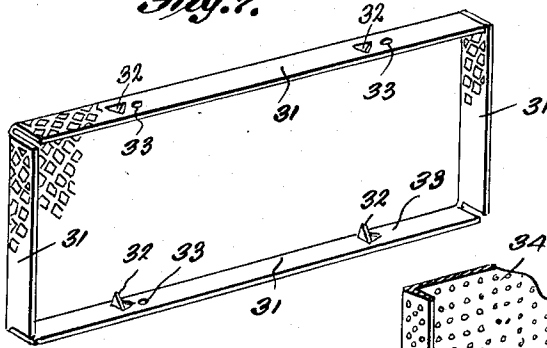


Fig. 7A

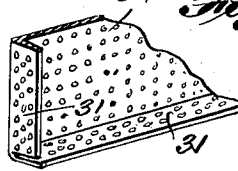


Fig. 8.

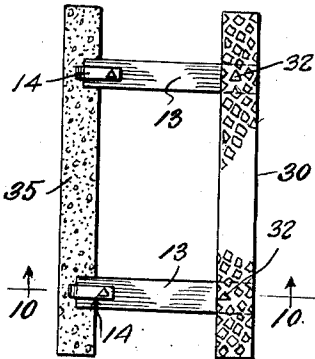


Fig. 9.

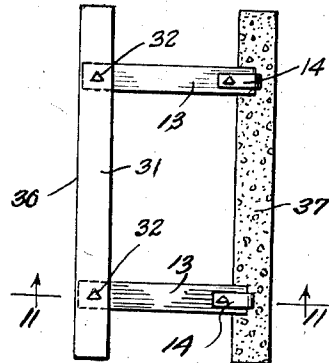


Fig. 10.

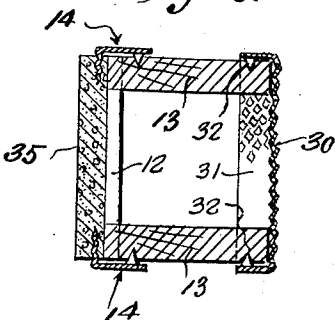
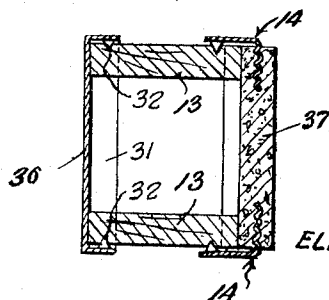


Fig. 11.



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WALL BUILDING UNIT

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Application February 10, 1950, Serial No. 143,552

1 Claim. (Cl. 72-43)

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The present invention relates to a wall building unit and it consists in the combinations, constructions and arrangements of parts herein described and claimed.

Generally the invention comprises a building unit which is designed for the construction of walls and which consists of an outer and an inner facing member which are connected together by means of novel bridging members forming a part of the invention. Novel tie members are provided for assembling the parts of the device and for eliminating the use of nails or the like. The inner and outer facing members may be of a variety of constructions as will be noted hereinafter and the device may be manufactured in completely assembled units and then shipped to the site of construction or, if desired, may be shipped thereto in disassembled condition and thereafter assembled at the point of construction. The device is so arranged that after assembly concrete or other mastic or grout may be poured between the inner and outer facing members and form therewith a completely unitary wall structure.

It is accordingly an object of the invention to provide a device of the character set forth which is simple in construction, inexpensive to manufacture and yet effective and efficient in use.

Another object of the invention is the provision, in a device of the character set forth, of novel struts and means for fastening the same.

Another object of the invention is the provision of a novel tie member forming a part of the invention.

Still a further object of the invention is the provision of a novel wall construction wherein no heat conductive material extends continuously from the outer to the inner portions of said wall.

A further object of the invention is the provision of a wall construction wherein novel means is provided for the construction of a unitary wall structure from a plurality of units forming the present invention.

A still further object of the invention is the provision of a building unit of the character set forth which will permit of a great variety of materials to be used for both the inner and outer facing members forming parts of the invention.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

Figure 1 is an isometric view, partly broken away, of a wall constructed in accordance with the teachings of the present invention,

Figure 2 is a fragmentary plan view, somewhat enlarged, of the wall illustrated in Figure 1,

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Figure 3 is a sectional view taken along line 3-3 of Figure 2,

Figure 4 is a fragmentary isometric view of a facing member and a strut and illustrating a tie member for securing the same together,

Figure 5 is an enlarged perspective view of a tie member forming a part of the invention,

Figure 6 is a perspective view of a modified form of strut forming a part of the invention,

Figure 7 is an isometric view of a facing member forming a part of the invention,

Figure 7A is a fragmentary perspective view of a modified form of the element illustrated in Figure 7,

Figure 8 is a plan view of an assembled unit wherein the outer facing member is of concrete or the like and the inner facing member is of expanded metal or the like,

Figure 9 is a view similar to Figure 8 but showing an outer wall of enamelled metal and an inner facing member of crushed cinder or the like,

Figure 10 is a sectional view taken along line 10-10 of Figure 8, and

Figure 11 is a sectional view taken along line 11-11 of Figure 9.

Referring more particularly to the drawings, there is shown therein, in Figures 1 to 6, inclusive, a building unit comprising an outer facing portion or outer panel 10 and an inner panel or facing 11. The panels 10 and 11 are of rectangular construction and each is provided upon its inner side with a pair of vertically extending grooves 12. The panels 10 and 11 are held in spaced relation to each other by means of transversely extending wooden struts 13 the ends of which are located in the upper and lower portions of the grooves 12.

A novel tie member 14 is provided and is provided with a vertical corrugated section 15 and an integrally formed flat horizontal portion 16 adjacent the outer end of which is punched out a vertically dependent triangular shaped spur 17. A circular nail-receiving opening 18 is formed in the portion 16 adjacent the spur 17. The corrugated portion 15 is adapted to be embedded, as indicated at 19, for example, in Figure 3 in the body of the panels 10 and 11 adjacent the ends of the grooves 12.

The struts 13 may be provided, if desired, with a centrally disposed transversely extending groove 20 for the reception therein of reinforcing rods 21.

In assembling this form of the invention, it will be apparent that the panels 10 and 11 may be affixed in spaced parallel relation to each other by placing struts 13 within the groove 12 at the upper end and at the lower end of each of such grooves

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and thereafter forcing the spurs 17 into the struts 13 to thereby hold the same rigidly in position. If desired, nails may be driven through the openings 18 into the struts 13 to thereby more securely hold the unit in position. Thereafter the units may be placed in conventional manner beside and atop one another to form a wall structure and, if desired, reinforcing rods 21 may be laid upon the grooves 20 formed in the struts 13. Thereafter mortar 22 which may be cement, vermiculite or the like is poured into the space between the panels 10 and 11 and allowed to harden thereby resulting in a complete unitary wall structure having no metal or other heat conducting materials extending from one panel to the other and thus resulting in a heat resistant wall.

In the form of the invention shown in Figure 7 there is disclosed an inner panel 30 formed of so-called "expanded" metal and provided with intumed flanged edges 31 the upper and lower of which have punched therein triangular spurs 32 and adjacent nail hole openings 33 which are identical, respectively, with the spurs 17 and openings 18 in the ties 14.

In Figure 7A, there is shown an inner panel 34 formed of perforated sheet metal and being otherwise identical in structure with the device shown in Figure 7.

In Figure 8 there is shown an outer panel 35 formed of a slab of concrete or the like and an inner panel 30 such as is disclosed in Figure 7. The panels 35 and 30 are interconnected by struts 13 as hereinabove described.

In Figure 9 there is shown an outer panel 36 which is formed of enamelled sheet metal and of a structure similar to that shown in Figure 7 and an inner panel 37 which is formed of crushed cinders, concrete or the like.

It will be seen that the outer panels 35 and 36 are provided with their final finish—that is to say that no further coating, painting or the like is necessary and that the inner panels 30, 34 and 37 are of such nature as to readily receive and hold thereon a coating of plaster or the like.

Of course, it will also be apparent that the devices shown in Figures 7 to 11, inclusive, are assembled in the manner heretofore described with regard to the devices shown in Figures 1 to

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6, inclusive, and that when so assembled, the space between the inner and outer panels may be filled with a grout of mortar or the like to thereafter harden into a unitary wall structure.

While only certain forms of the invention have been shown and described herein, it will be readily apparent that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claim.

What is claimed is:

A device of the character described comprising a panel formed of a slab of plastic material, a panel formed of sheet material having inwardly directed flanges, struts interconnecting said panels in spaced parallel relation, and means carried by said panels affixing said struts in position, said means including a pair of vertical grooves formed in the inner face of the plastic panel and receiving one end of each of the struts, ties each having a portion embedded in the plastic panel adjacent an end of one of the grooves and a second flat portion extending inwardly from the first portion over the strut projecting into the adjacent groove, each second portion provided with an integrally formed spur penetrating the adjacent strut, and spurs formed integrally with the flanges and penetrating the ends of the struts adjacent thereto.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
915,570	Dryden	Mar. 16, 1909
1,011,753	Crocker et al.	Dec. 12, 1911
1,142,093	Harp	June 8, 1915
1,415,197	Sampson	May 9, 1922
1,519,099	Ardell	Dec. 16, 1924
1,538,549	Hahn	May 19, 1925
1,962,906	Mueller	June 12, 1934
2,194,047	Markle	Mar. 19, 1940
2,309,420	Taylor	Jan. 26, 1943
2,412,253	Diggs	Dec. 10, 1946

FOREIGN PATENTS

Number	Country	Date
820,650	France	of 1937