

Dec. 23, 1969

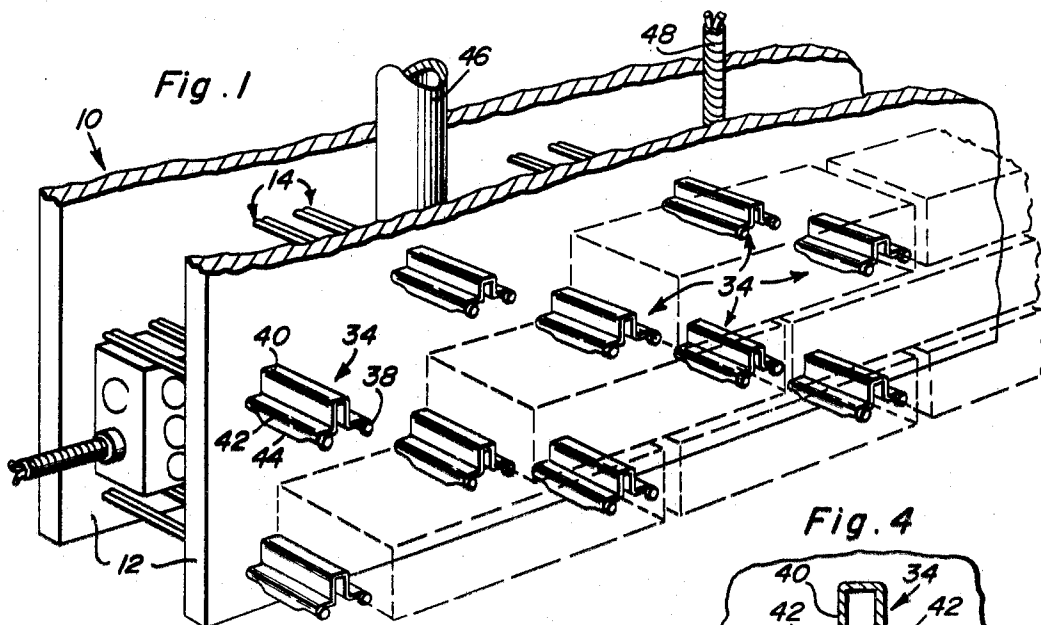
W. McDOWELL

3,485,003

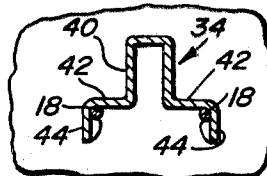
WALL CONSTRUCTION AND BRICK SPACER ARRANGEMENT

Filed Dec. 14, 1967

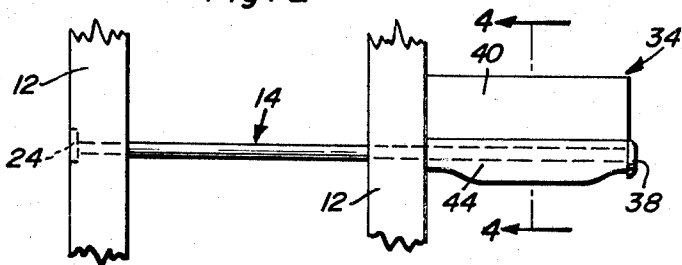
2 Sheets-Sheet 1



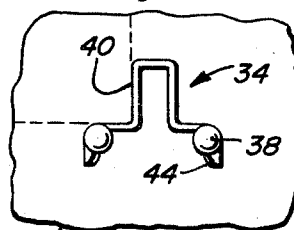
**Fig. 4**



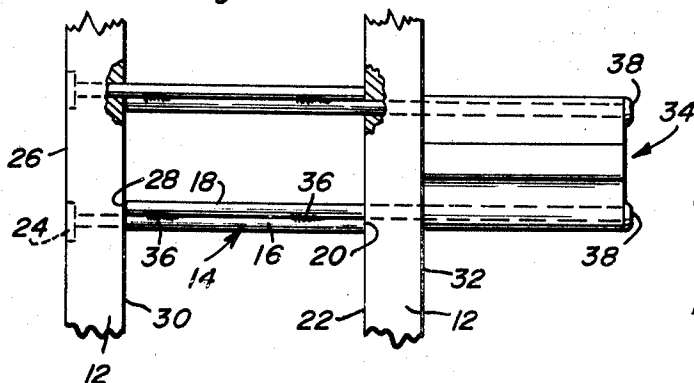
**Fig. 2**



**Fig. 3**



**Fig. 5**



Wallace McDowell

INVENTOR.

BY *Alvin A. Odion*  
and *Harvey B. Jackson*  
Attorneys

Dec. 23, 1969

W. McDOWELL

3,485,003

WALL CONSTRUCTION AND BRICK SPACER ARRANGEMENT

Filed Dec. 14, 1967

2 Sheets-Sheet 2

Fig. 6

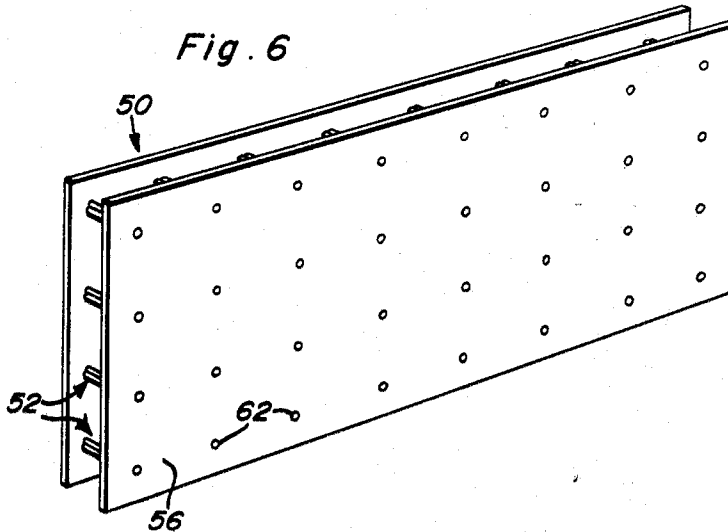


Fig. 7

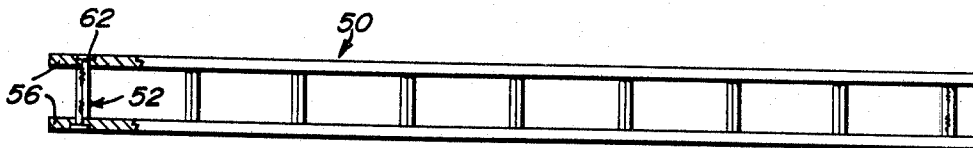


Fig. 9

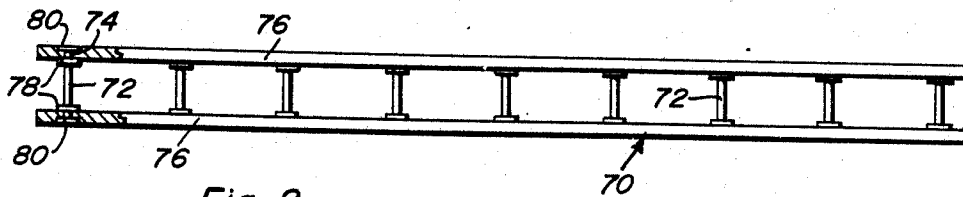
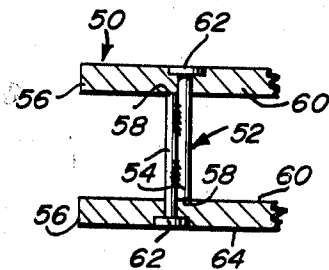


Fig. 8



Wallace McDowell  
INVENTOR.

BY *Pharmec O'Brien*  
and *Harvey R. Jacobson*  
Attorneys

1

3,485,003

## WALL CONSTRUCTION AND BRICK SPACER ARRANGEMENT

Wallace McDowell, 819 S. Lawrence St.,  
Montgomery, Ala. 36104

Filed Dec. 14, 1967, Ser. No. 690,486

Int. Cl. E04b 2/30; E04c 1/10, 1/40

U.S. Cl. 52—415

9 Claims

### ABSTRACT OF THE DISCLOSURE

A preformed wall unit formed of interconnected parallel panels which define a hollow core therebetween for the reception of insulation or the like. One of the panels may include outwardly projecting positioning brackets for bricks mounted thereon through the use of selected ones of the rods which interconnect the panels.

The instant invention is generally concerned with wall construction, and more particularly relates to a preformed wall section or unit of a substantial size which is adapted for quick assembly with similar sections in the construction of both interior and exterior walls.

It is a primary object of the present invention to provide a preformed wall section of a hollow core nature which is adaptable for substantially any type of construction through the utilization of the hollow core for the reception of concrete, such as would be desired when providing a bearing wall, heat insulation when a non-bearing exterior wall is desired, soundproofing for specific interior partitions, and premounted plumbing and electrical conduits and the like.

Another significant object of the instant invention resides in the provision of unique means for positioning and interconnecting the panels which comprise each section to form a rigid unit capable of functioning as either the finished wall itself or a combination wall and form for the reception of concrete or the like.

Further, an important object of the instant invention resides in the provision of mounting brackets to facilitate the mounting and to insure a proper positioning of facing bricks, should a brick wall be desired.

Basically in achieving the objects of the instant invention, a wall section is constructed of laterally spaced parallel panels interconnected by transversely extending rods which are normally provided in pairs, one extending inwardly through each panel and abutting the inner face of the opposite panel for providing a predetermined spacing between the panels. These rods are subsequently interconnected internally between the panels so as to form in effect an integral rod member or connector with opposed abutments. When an external facing of brick is desired, selected ones of the rods are projected beyond one of the panels and mount outwardly projecting brick seating brackets upon which facing bricks are easily positioned for the subsequent introduction of grouting material therebetween.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of a portion of the wall section or unit comprising the instant invention;

FIGURE 2 is an enlarged cross-sectional view through the section of FIGURE 1 illustrating one of the brick mounting brackets in side elevation;

FIGURE 3 is a front elevational view of one of the brackets;

2

FIGURE 4 is a cross-sectional view taken substantially on a plane passing along line 4—4 of FIGURE 2;

FIGURE 5 is a horizontal cross-sectional view through the section of FIGURE 1 illustrating the construction and orientation of the panel connecting rods and one of the brackets in top plan view;

FIGURE 6 is a perspective view of a modified form of section;

FIGURE 7 is a top plan view, with portions broken away, of the section of FIGURE 6;

FIGURE 8 is an enlarged sectional view detailing the interconnecting rod members associated with the section of FIGURES 6 and 7; and

FIGURE 9 is a top plan view, with portions broken away for purposes of illustration, of another form of wall section.

Referring now more specifically to the drawings, reference numeral 10 is used to generally designate the wall section or unit comprising the instant invention.

Basically, the unit 10, which is preformed in nature, is constructed by fixedly interconnecting a pair of laterally spaced flat parallel panels 12 of hardboard, plywood, or the like which, in conjunction with the rigidifying connectors or connector members 14 possess a substantial degree of rigidity capable of accommodating the introduction of a filler material, such as concrete, therebetween.

The connectors 14, in each instance, consists of a pair of elongated rods or rod-like members 16 and 18. The rod 16 extends through one of the panels 12, which can be considered the inner panel, and has the flat leading end 20 thereof abutting against the inner face 22 of the second or outer panel 12. This rod 16 also has an enlarged head 24 thereon received within a depression or recess in the outer face 26 of the first or inner panel 12 so as to appear flush with this outer face 26. The rod 18 extends through the second or outer panel 12 parallel and juxtaposed to the rod 16 with the flat inner end 28 thereof abutting against the inner face 30 of the first panel. This rod 18 is of a substantially greater length than the rod 16 so as to project outwardly beyond the outer face 32 of the second panel 12 for the accommodation of a brick positioning bracket 34 thereon. The two rods 16 and 18 which comprise each connector 14 are welded or otherwise rigidly affixed, as at 36, to each other between the panels 12 so as to define in effect an integral unit having opposed panel locating abutments formed by the rod ends 20 and 28.

Each bracket 34 is associated with the projecting portions of a pair of adjacent rods 18 and is of a length which provides for a snug reception between the outer face 32 of the second or outer panel 12 and the enlarged heads 38 on the rods 18. In this manner, not only are the wall forming panels 12 interlocked, but mounting of the positioning brackets 34 is also effected.

Each bracket 34 will normally be of sheet metal or the like formed so as to define a central section 40 generally in the shape of an inverted U, a pair of outwardly directed horizontal flanges 42 integral with the lower portion of the central section 40, and a pair of downwardly directed flanges 44 integral with the outer edges of the outwardly directed flanges 42. Each bracket 34 is received over a pair of adjacent outwardly projecting rods 18 with these rods 18 seating in the angles defined between the adjacent flanges 42 and 44, after which the inner and outer end portions of the depending vertical flanges 44 are crimped or otherwise deformed about the corresponding rods 18 so as to effect a rigid attachment of the bracket 34 thereto. The specific construction and mounting of the brackets 34 will be readily appreciated from FIGURES 1-5 of the drawings.

As indicated supra, these brackets 34 are specifically provided for facilitating the mounting of a brick face on the outer panel. The bricks, as will be appreciated from FIGURE 1, are to rest upon the horizontal flanges 42 of a pair of adjacent brackets 34. The brackets 34 themselves are of a length less than the depth of the bricks so as to not project therebeyond, while the width of the central section 40 of each of the brackets 34 corresponds to the width of the joint defined between adjacent bricks in the same course. Furthermore, the height of the flanges 44 generally corresponds to the height of the mortar joint desired between adjacent courses of brick, each brick sliding, within allowable tolerances, rather snugly between adjacent brackets 34 and beneath a superimposed bracket 34 in the superjacent course of brackets. Upon a positioning of the bricks, the joints therebetween are filled with mortar or grout in any suitable manner, preferably through the utilization of a pressure hose or the like with the resultant construction presenting the appearance of a perfectly laid brick wall. It will be recognized that the use of these brackets 34, provided during the prefabrication of the wall section 10, allows a construction of in effect a perfect brick wall by one other than a skilled brick layer.

As will be appreciated, the laterally spaced panels 12 define a hollow core within which it is contemplated will be accommodated appropriate plumbing and electrical conduits 46 and 48 preassembled for connection with mating conduits in adjacent sections 10 whereby, upon an installation of the wall sections 10, a pre-wired construction will be effected, along with the simultaneous position of appropriate roughed in plumbing. In addition, the hollow core defined between the panels 12 can receive, at the option of the builder, any appropriate insulation, or for that matter a poured concrete filler. Further, the countersinking of the heads 24 of the rods 16 make it possible to apply a finishing coat of paint or plaster directly to the inner panel 12.

With reference to FIGURES 6, 7 and 8, it will be noted that a modified form of wall section 50 has been illustrated therein. This section 50 differs from the section 10 in that each connector 52 is defined by a pair of duplicate rods 54 extending inwardly through opposite ones of the panels 56 and having the flat inner ends 58 thereof abutted against the inner face 60 of the opposite panel 56. Each of these rods 54 in addition has an enlarged head 62 thereon positioned in a recess in the outer face 64 of the corresponding panel 56 so as to provide a flush appearance therewith. Finally, the two rods 54, between the panels 56, are rigidly welded or otherwise affixed to each other so as to in effect constitute a single unit having abutment faces at the opposite ends thereof for the stabilization of the panels 56 relative to each other. With this particular construction, it will be appreciated that a similar hollow core is provided for the accommodation of the conduits, as well as the filler material. The outer faces of the two panels 56 are, in the finished construction, plastered, painted, or otherwise finished in any appropriate manner.

FIGURE 9 illustrates yet another form of wall section 70, this section 70 differing from the section 50 in that the connector 72 comprises a single rod having the opposite ends 74 thereof rigidly embedded within the opposed panels 76 with the spacing between the panels 76 being fixed by a pair of flat collars 78 on each rod 72 defining opposed abutments against which the inner faces of the panels 76 engage. Incidentally, the panel embedded ends 74 can, if so desired, have enlarged plates 80 affixed thereto so as to cooperate with the plates or collars 78 and in effect sandwich the corresponding panels 76 therebetween, thus further stabilizing the construction.

From the foregoing, it will be appreciated that a novel wall unit has been defined, this unit comprising a pre-formed section constructed in a unique manner so as to

achieve an adaptability to a variety of construction situations.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A wall unit construction comprising a pair of opposed flat rigid panels, a plurality of connectors extending between and rigidly interconnecting said panels in laterally spaced parallel relation to each other to define a hollow core therebetween, each connector having opposed ends thereon extending into the opposed panels, said panels having inner and outer faces, abutment means on each connector adjacent each end thereof against which the inner face of the adjacent panel is engaged, means fixed on each end of each connector outward of the abutment means, each panel being confined between the two means on the adjacent end of the connector, each connector comprising a pair of duplicate rods, said rods extending in opposite directions laterally adjacent each other, each passing through one of the opposed panels and terminating in an end abutting directly against the inner face of the other panel adjacent the other rod, said rod ends constituting the abutment means, and means rigidly securing said rods together between said panels.

2. The construction of claim 1 wherein said abutment means forming rod ends are flat so as to seat flush against the inner faces of the panels, said means on each end of each connector outward of the abutment means constituting an enlarged head fixed to each of said rods on the end thereof opposite from the inner face abutting end for co-operation with the inner face abutting end of the other rod in confining a panel therebetween.

3. The construction of claim 2 wherein the means rigidly securing said rods together between the panels constitutes welding.

4. A wall unit construction comprising a wall face defining panel and a plurality of brick mounting brackets affixed thereto, said brackets each including a pair of oppositely projecting horizontal portions adapted to receive one end of a brick, a raised central portion between said oppositely projecting horizontal portions of a width generally corresponding to the width of a mortar joint between adjacent bricks in a single course, said raised central portion constituting a positioning means for a pair of adjacent supported brick ends, and means for securing said brackets to said wall face, said last mentioned means constituting a pair of elongated rods projecting outwardly from said wall face into underlying relation with said oppositely projecting horizontal portions, and means on said oppositely projecting horizontal portions locking each bracket to the underlying rods, said rods projecting inwardly of said wall face and being rigid relative thereto.

5. A wall unit construction comprising a pair of opposed flat rigid panels, a plurality of connectors extending between and rigidly interconnecting said panels in laterally spaced parallel relation to each other to define a hollow core therebetween, each connector having opposed ends thereon extending into the opposed panels, said panels having inner and outer faces, abutment means on each connector adjacent each end thereof against which the inner face of the adjacent panel is engaged, means fixed on each end of each connector outward of the abutment means, each panel being confined between the two means on the adjacent end of the connector, each connector comprising a pair of rods, said rods extending in opposite directions, each passing through one of the opposed panels and terminating in an end abutting against the inner face of the other panel, said rod ends constituting the abutment means, and means rigidly securing said

5

rods together between said panels, one rod of each pair extending perpendicularly outward beyond one of said panels to define a projecting portion, a plurality of brick aligning brackets, each bracket secured to a pair of adjacent projecting portions so as to extend perpendicularly from said one panel, said brackets constituting the means on that end of the connector outward of the abutment means.

6. The construction of claim 5 wherein each bracket comprises a pair of oppositely extending horizontal portions adapted to receive the adjacent ends of a pair of bricks thereon, and a raised central portion adapted to lie between and define the spacing between a pair of adjacent supported bricks.

7. The construction of claim 6 wherein each bracket includes a depending portion at the outer edge of each of said oppositely extending horizontal portions, each of said horizontal portions being received over one of the projecting rod portions, the corresponding depending portion being deformed into gripping engagement with the corresponding projecting rod portion.

8. The construction of claim 7 wherein said depending portions generally correspond in height to the height of the mortar joint desired between adjacent courses of

6

brick, the deformation of the depending portions into engagement with the corresponding projecting rod portions extending along only a section of the length of each depending portion whereby the full height of the depending portion is maintained over a section of the length thereof.

9. The construction of claim 5 wherein said rods are positioned parallel to and laterally adjacent each other, the abutment means forming rod ends being flat.

#### References Cited

##### UNITED STATES PATENTS

442,375	12/1890	Hellinger	52—562
1,053,231	2/1913	Schweikert	52—426
1,831,163	10/1931	Crowell	52—353
1,835,524	12/1931	Rinehart et al.	52—428
3,100,953	8/1963	Johnson	52—563
3,411,257	11/1968	Yaremchuk	52—105

FRANK L. ABBOTT, Primary Examiner

JAMES L. RIDGILL, JR., Assistant Examiner

U.S. Cl. XR.

52—426, 506, 562, 604