

Dec. 6, 1949

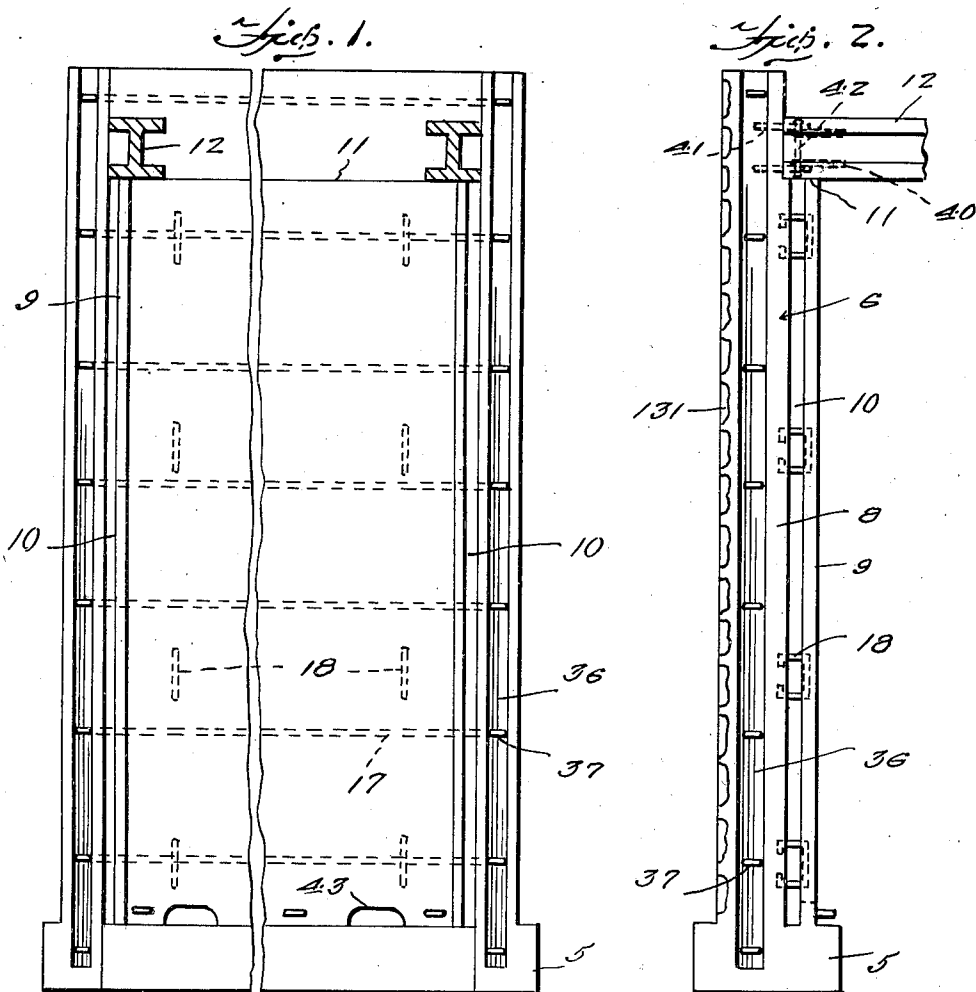
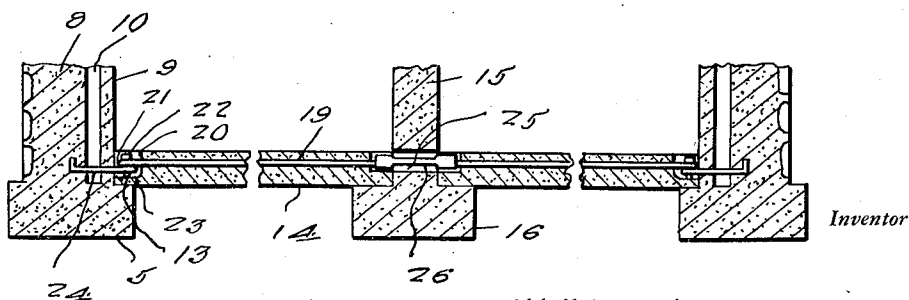
W. V. MYER

2,490,537

BUILDING CONSTRUCTION

Original Filed Feb. 27, 1942

2 Sheets-Sheet 1



Wilbur V. Myer
By *Clarence A. O'Brien*
and *Harvey B. Jacobson*
Attorneys

Dec. 6, 1949

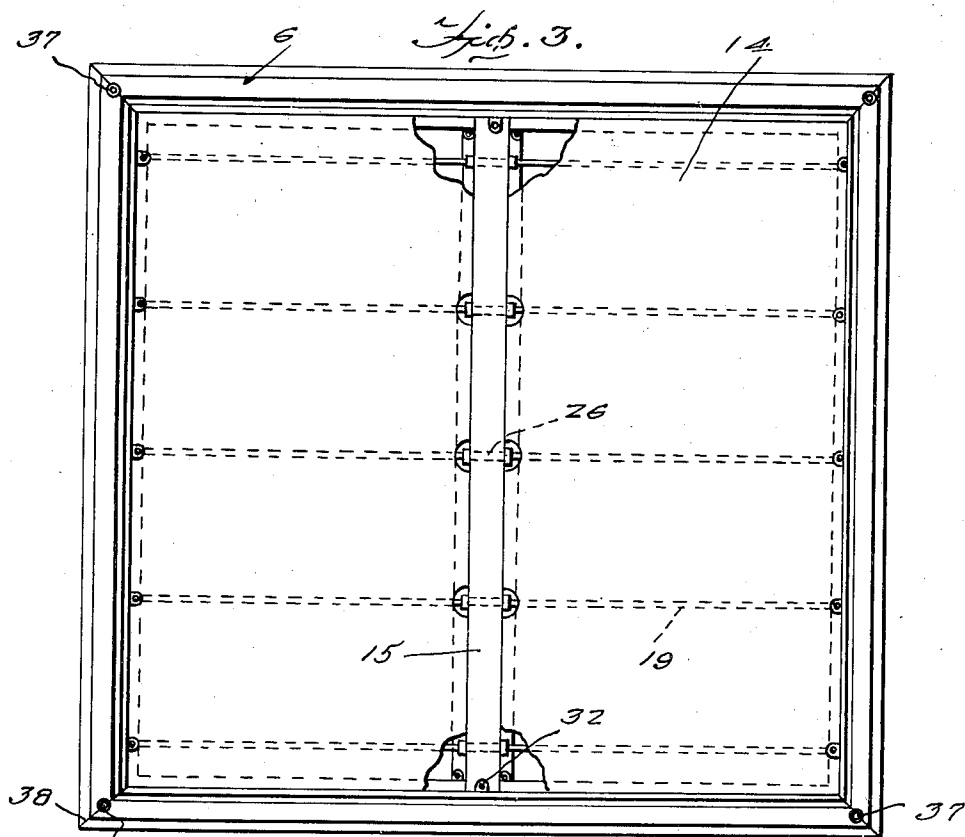
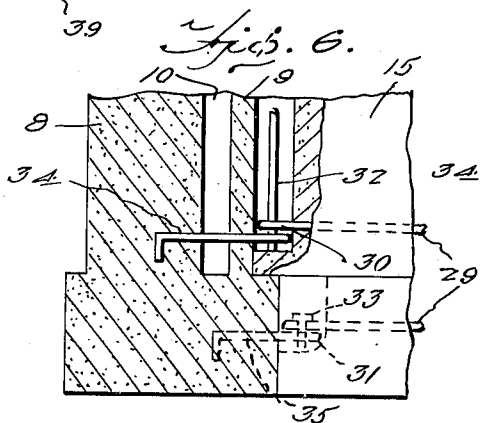
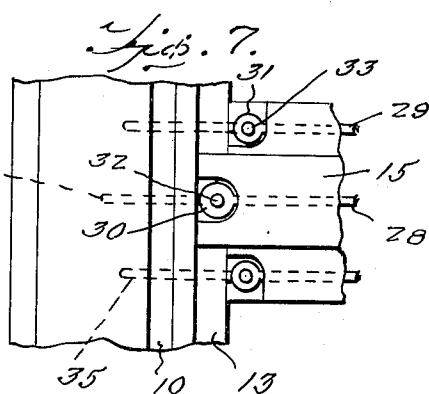
W. V. MYER

2,490,537

BUILDING CONSTRUCTION

Original Filed Feb. 27, 1942

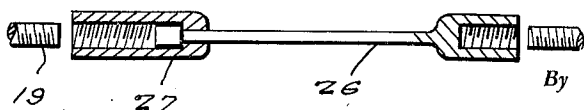
2 Sheets-Sheet 2



Inventor

Fig. 4.

Wilbur V. Myer



By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,490,537

BUILDING CONSTRUCTION

Wilbur V. Myer, San Diego, Calif.

Original application February 27, 1942, Serial No. 432,698, now Patent No. 2,373,409, dated April 10, 1945. Divided and this application August 24, 1943, Serial No. 499,831.

3 Claims. (Cl. 72-1)

1

This is a divisional application of my co-pending application Serial No. 432,698, filed February 27, 1942, now U. S. Patent No. 2,273,409 of April 10, 1945.

The present invention relates to new and useful improvements in building construction and has for its primary object to provide a method of constructing buildings of pre-cast units including wall, ceiling, floor and roof units, and in which all of the units entering into the construction of the building may be pre-cast either on the site or remote from the site and embodying means for assembling and securing the several units into a strong, durable and attractive building.

One of the important objects of the present invention is to provide wall units for the building including integrally cast inner and outer spaced wall sections to provide an insulating air space therebetween, the wall being formed of plastic material and adapted to have facing stones embedded in the outer surface thereof.

Another object is to provide novel means for anchoring the floor and ceiling units to the wall units.

An additional object is to provide a building construction which may be built of curved as well as straight walls, which is completely fire-proof, in which the units forming the structure may be assembled without the need of skilled labor and which is otherwise economical to construct.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like reference numerals refer to like parts throughout, and in which:

Figure 1 is an elevational view of the inside of one of the wall units.

Figure 2 is an edge elevational view thereof.

Figure 3 is a plan view of the floor with the roof removed.

Fig. 4 is a detail view, with parts in section, of one of the connecting links for the floor unit at opposite sides of a partition wall.

Figure 5 is a fragmentary vertical sectional view through the foundation.

Figure 6 is a fragmentary detail, with parts in section of the anchoring means between the partition wall and one of the exterior wall, and

Figure 7 is a fragmentary top plan view thereof.

Referring now to the drawings in detail, the invention comprises a building wall unit which

2

includes a foundation 5 of concrete or similar construction on which is supported the outer walls 6 and on the upper edge of which the roof structure, (not shown) may be supported. The foundation 5 and side walls 6 are integrally cast and each of the side walls includes an outer main wall section 8 and an integrally cast inner wall section 9 spaced from the main wall section to provide an air space 10 therebetween which is closed at its bottom and open at its top and side edges. The inner wall section 9 terminates below the top of the main outer wall section 8 and provides a shoulder 11 on which the ends of the ceiling I-beams 12 are supported.

The foundation 5 is of a width greater than the wall sections 6 to provide a shoulder 13 on which the edge of the floor units 14 are supported.

The building also includes an inner partition 15 supported on a foundation 16 to separate the building into rooms as shown in Figure 3 of the drawings.

The main wall section 8 is provided with reinforcing rods 17, it being understood that the wall unit as well as the partition, floor and ceiling units are constructed of pre-cast plastic material and the main wall section as well as the inner wall section 9 are connected by reinforcing stirrups 18 arranged at vertically spaced intervals to prevent separation of the wall section.

Each of the floor units 14 have reinforcing rods 19 positioned therein, one end of the rods terminating in a recess 20 formed in the floor unit and formed into an eye 21 for receiving a pin 22 which is also inserted through the eye portion 23 of a rod 24 embedded in the wall unit.

Transverse openings 25 are formed in the inner partition 15 adjacent the base 16 and through which links 26 are positioned having sockets 27 at the ends thereof for threaded engagement with the rods 19. The partition 15 as well as the base, also have reinforcing rods 28 and 29, respectively, therein having eyes 30 and 31 at the ends of the rods for receiving pins 32 and 33 engaging rods 34 and 35 embedded in the side walls.

The ends of the wall sections 8 are formed with vertical grooves 36 having eyes 37 positioned therein formed on the ends of the reinforcing rods 17. The ends of the walls at the corners of the building are beveled as shown at 38 and the eyes 37 of the abutting walls are adapted for positioning in aligned overlapping relation for receiving vertical rods or pins 39 inserted there-through for anchoring the edges of the walls together.

The roof I-beams 12 are supported on the shoulders 11 of the main wall section 8 and the

3

inner wall section 9, the beams and the wall having overlapping rods 40 and 41 provided with eyes for receiving pins 42.

In the lower portion of the inner wall section 9 are formed a plurality of clean-out openings 43 for removing the casting sand after the wall is set to form the air space 10 between the wall sections.

In constructing the wall units, a pouring table or shallow mold of any suitable size and construction is placed on the ground and the facing rocks or stones 131 are fitted closely together therein and cement mortar poured between the joints. The rocks are then prepared in the usual manner to receive the concrete, which is poured to the desired thickness on the back of the facing formed by the rocks or other facing material to form the outer wall 8.

The metal reinforcing network of rods are then laid on the wet concrete and pushed therein to become embedded in the desired position, the ends of the rods being formed with the eyes 37 or other desired fastening devices which project from the edges of the wall to tie adjacent walls, floors, ceilings or other precast units thereto.

One end of the stirrups 18 are pushed into the wet concrete and project therefrom, after the concrete becomes sufficiently hardened, a coating of asphalt emulsion in water, is applied to provide a moisture-proof coating on the inner surface of the wall.

A layer of sand or similar chemically inert material to a depth of approximately three inches is then placed on the hardened concrete on top of which is poured a layer of concrete or plastic material to form the inner wall 9 which is united at one edge with the outer wall to form the foundation 5. The inner wall may also be reinforced as heretofore explained and is maintained in spaced relation to the outer wall by the stirrups 18.

After the walls are set, the sand may be drained through the openings 43 and the walls are then ready for assembling.

The inner space referred to as air space 10, may be filled with sawdust, blown glass insulation, rock, wool, or any similar insulating material in climates where this is necessary.

Having described the invention, what is claimed as new is:

1. In combination, a building construction including monolithic wall, partition and floor units of plastic material, integral shouldered bases constituting foundations on said wall and partition units, said floor units being supported on said shouldered bases, fastening means anchored in said wall units and extending laterally from the surface thereof, reinforcing means in said floor units, recesses in said floor units into which said fastening means and said reinforcing means extend and releasable means in said recesses detachably connecting said fastening and said reinforcing means, said partition units each having a plurality of apertures therein, connectors in said apertures transverse of said partitions and means releasably uniting said reinforcing means to said connectors, said partition units being disposed intermediate opposed wall units, said floor units resting upon the shoulders of opposed wall and partition units.

2. In combination, a building construction including monolithic wall, partition and floor units of plastic material, integral shouldered bases constituting foundations on said wall and partition units supporting said floor units, fastening means

4

anchored in said wall units and extending laterally from the surface thereof, reinforcing means in said floor units, recesses in said floor units into which said fastening means and said reinforcing means extend and releasable means in said recesses detachably connecting said fastening and said reinforcing means, said partition units, each having a plurality of apertures therein, connectors in said apertures transverse of said partition and means releasably uniting said reinforcing means to said connectors, said partition units being disposed intermediate opposed wall units, said floor units resting upon the shoulders of opposed wall and partition units, said connectors consisting of rods and said last means consisting of terminally and internally screw-threaded tubular members on said rods, said reinforcing means including externally threaded extremities engaging the rods and the tubular members.

3. In combination, a building construction including monolithic wall, partition and floor units of plastic material, integral shouldered bases constituting foundations on said wall and partition units supporting said floor units, fastening means anchored in said wall units and extending laterally from the surface thereof, reinforcing means in said floor units, recesses in said floor units into which said fastening means and said reinforcing means extend and releasable means in said recesses detachably connecting said fastening and said reinforcing means, said partition units each having a plurality of apertures therein, connectors in said apertures transverse of said partition and means releasably uniting said reinforcing means to said connectors, said partition units being disposed intermediate opposed wall units, said floor units resting upon the shoulders of opposed wall and partition units, each connector comprising a rod having ends, one of said ends being interiorly threaded and receiving the threaded extremity of a reinforcing member, the other end being slidably received in said releasable means comprising a cylinder, said rod being slidable in a bore in the head of said cylinder, said cylinder being interiorly threaded and connected to the threaded extremity of a reinforcing member of a second floor unit disposed on the opposite side of said partition.

WILBUR V. MYER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
772,456	Chandler	Oct. 18, 1904
960,305	Gilbreth	June 7, 1910
1,024,852	Holmberg	Apr. 30, 1912
1,205,465	McQuire et al.	Nov. 21, 1916
1,398,209	Bavegem	Nov. 22, 1921
1,923,645	Thompson	Aug. 22, 1933
1,924,801	Olmsted	Aug. 29, 1933
2,095,422	Stencel	Oct. 12, 1937
2,100,451	Parkhurst	Nov. 30, 1937
2,105,854	Buck	Jan. 18, 1938
2,202,745	Muse	May 28, 1940
2,281,967	Zazvorka	May 5, 1942

FOREIGN PATENTS

Number	Country	Date
7,490	Great Britain	Oct. 12, 1911
619,554	France	Jan. 4, 1927

Certificate of Correction

Patent No. 2,490,537

December 6, 1949

WILBUR V. MYER

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows:

Column 1, line 3, for the patent number "2,273,409" read *2,373,409*;
and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 25th day of April, A. D. 1950.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.