April 29, 1952 P. J. CALLAN 2,595,123

METHOD OF CONSTRUCTING BUILDINGS

Filed Jan. 21, 1949 2 SHEETS—SHEET 1

Fig. 1

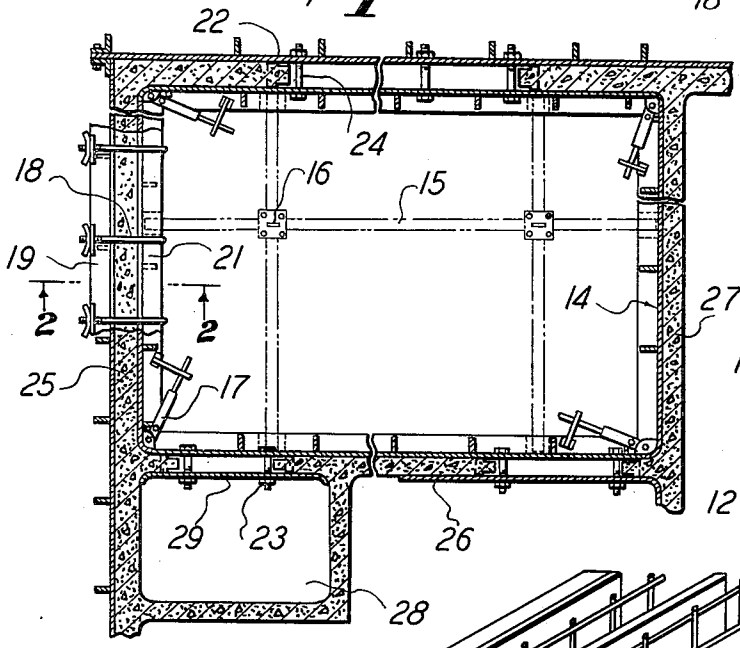


Fig. 2

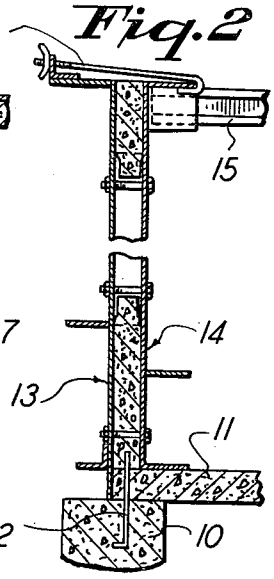
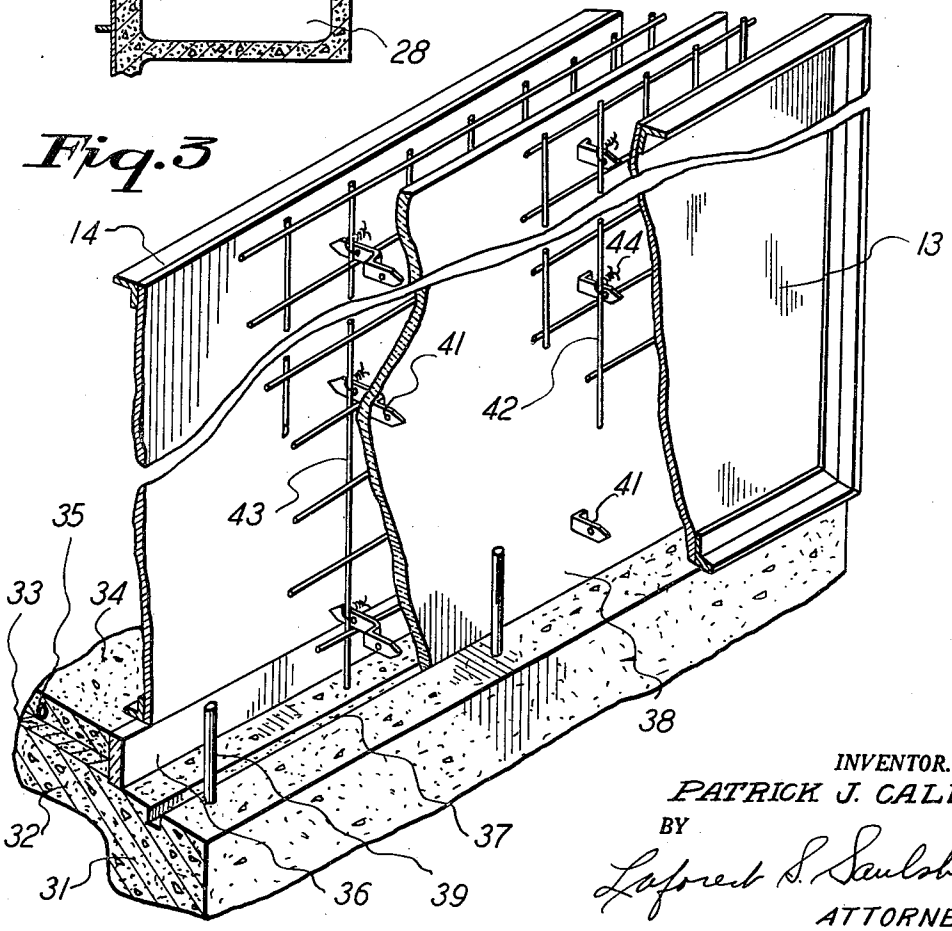


Fig. 3



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Fig. 4

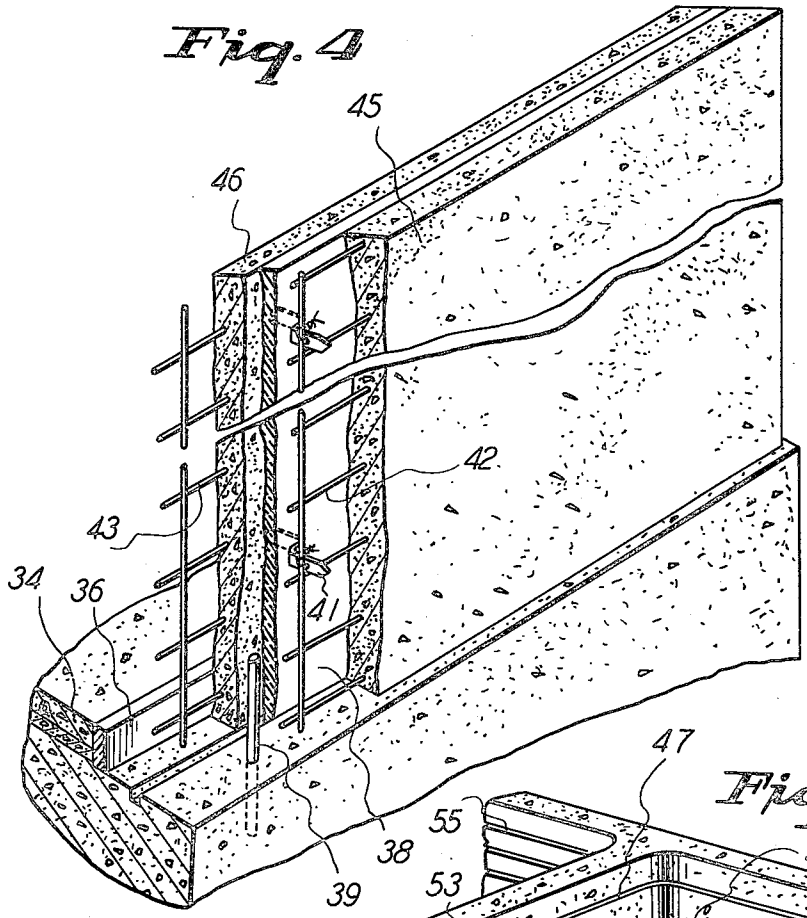
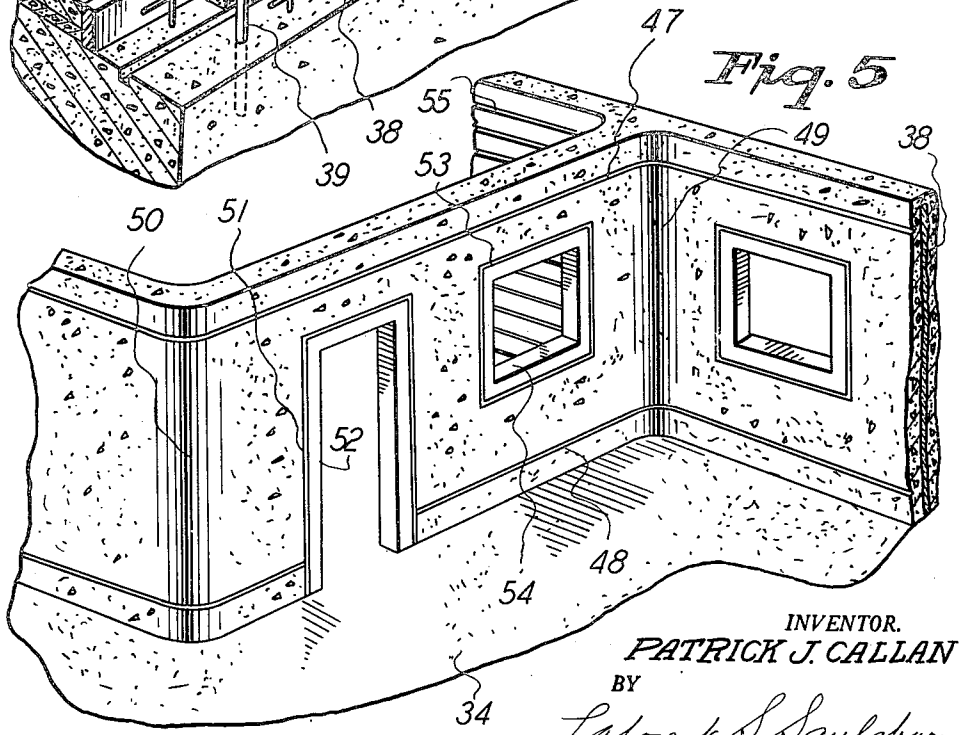


Fig. 5



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METHOD OF CONSTRUCTING BUILDINGS

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3 Claims. (Cl. 25—154)

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This invention relates to a building construction and more particularly to a method of erecting such buildings.

This application is a division in part of my application, Serial No. 736,685, filed May 24, 1947, now Patent No. 2,544,297 on Collapsible Forms for Concrete Wall Construction.

It is an object of the present invention to provide a method of building a house or building wherein large forms can be utilized for the shaping of individual rooms in their entirety, the removal of such forms as a unit and in shaping of the exterior of the house and wherein, by the single pouring of concrete throughout the full set of forms, the entire house or building, both interior and exterior, is formed and wherein the window and door openings thereof will be provided within the walls and making necessary only the placing of the window and door frame therewithin.

It is another object of the present invention to provide a building construction formed of poured concrete wherein there will be automatically provided within the exterior walls an insulation member bearing adequate waterproofing for the wall and reinforcing wire at the opposite sides of the insulating member and in spaced relation therefrom, and wherein the interior and exterior surfaces of the walls will be left patterned to give them a fanciful appearance and thereby making further effort unnecessary other than the application of paint or coloring matter or wall paper on the interior to give such walls the finished and warm appearance.

It is another object of the present invention to provide a method of building a house or building having room spaces which can be done on a volume basis, in little time, with the use of large equipment, such as heavy cranes adapted to handle large units of the wall construction, with little labor costs, insulated, waterproof and fireproof and at low cost.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a transverse sectional view of a fragment of a house with the inner and outer forms fitted thereover.

Fig. 2 is a vertical sectional view taken through the exterior wall and on line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary view of the forms set upon the floor support, the insulating member and the reinforcing wires extending through the forms and held in transverse relationship with respect thereto by spacing elements extending through the insulating member and connected by wires to the reinforcing mesh and engaging the inner faces of the forms.

Fig. 4 is a perspective and fragmentary view of

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a building wall constructed according to the present invention after the concrete has been poured and with the forms removed.

Fig. 5 is a perspective view of a larger portion of the wall looking upon the interior of a room and having window and door openings.

Referring now particularly to Figs. 1 and 2, it will be noted that a foundation or bottom wall 10 is first constructed and onto this wall there is placed a concrete floor 11. Vertically extending rods 12 are embedded in the bottom wall 10 and project upwardly through the flooring 11 in order to secure the portions against lateral displacement relative to one another. On the bottom wall 10 there may be mounted exterior forms 13 and on the floor and for each room of the building there is set up a collapsible form unit 14 adapted to form all four sides of a room and to be placed on the floor or removed from the finished room by lifting beam structure 15 to which cable hooks can be connected at 16. The form parts are extended or collapsed by manually operable levers 17. Other collapsible forms are placed in other rooms, throughout the full floor area of the house. The inner and outer forms are secured together by rods 18 connected between top plates 19 and 21 of the respective outer and inner forms. In door and window openings, there are provided forms or frames 22 or 23 and bolts 24 serve to hold the form parts flush upon these frames. With the forms set up for the entire house, the final pouring of concrete can take place and a wall 25 forming the exterior of the building and other walls 26 and 27, forming the inner walls of the house will be made. Small closet areas 28 can be formed with the same collapsible forms or units with only a portion of the same being shown at 29. The walls are formed with one pouring and upon hardening are ready for roof rafters and beams to close over the top of the house. A standard roof construction can be used.

Referring now particularly to Figs. 3 to 5, by a similar method, house walls having insulation and reinforcing wire mesh are formed. The first step is to provide a bottom wall or foundation 31 with a floor 32. Over this floor is extended an insulated formation 33 and a top floor arrangement 34 having heating pipes 35 therein. The top flooring 34 is brought flush with an expansion and compression insulating support member 36 extending vertically and about the periphery of the floor. The foundation 31 is formed with a slot 37 running throughout the extent of the same and into this slot there is extended and supported the bottom edge of an insulating member 38 which may be on one of its surfaces provided with waterproofing material. Vertical rods 39 are embedded in the foundation 31 and project upwardly thereabove and outside of the slot 37.

Through the insulating member or board 38 there are extended spacing elements 41. These spacing elements are pointed on their ends and can be readily extended through the insulating board material by but one end of the same piercing the material. Reinforcing wire meshes 42 and 43 are rested upon the foundation wall and are connected to the spacing members 41 by wires 44. With the inner wall form 14 and the outer wall form 13 in place, the pointed ends of the spacers 41 will engage the inner faces of these wall forms whereby to retain the insulating board and the reinforcing wire meshes in proper spaced relationship between the forms. The inner wall form is rested upon the insulating and compression member 36 to lie flush with the inner face thereof. This insulating member can be compressed at times in order to allow for the expansion of the floor material as when it is heated by a heating medium extended through the pipe 35. The outer wall form will extend inwardly of the outer edge of the foundation wall in order to rest thereon.

With the forms in place, the concrete can thereafter be poured into the space between the inner and outer forms and over the insulating board and the reinforcing wire mesh whereby to provide a solid wall construction including concrete portions 45 and 46 lying respectively at the opposite sides of the insulating member. With the outer surface of the insulating member coated with waterproofing material, there is little opportunity for moisture to pass through the concrete portion 45 to the concrete interior portion 46.

The inner forms 14 are collapsed by the releasing of the levers 17 so that all sides thereof are pulled in equally and then the entire unit is removed by a crane out of the top of the mass. The outer forms are similarly removed by cranes and taken to the next flooring to be set up for another wall.

In order that the wall faces will have a pleasing appearance, there is provided upon the forms a beading whereby grooves will be extended through the surfaces. As viewed in Fig. 5, the inner wall form may have beadings of such shape as to provide upper and lower parallel grooves 47 and 48 extending parallel to the floor and about the room. The corners of the room are preferably rounded as indicated at 49 and 50, and the grooves will extend therearound. Likewise, grooves 51 can be provided around a door opening 52. A similar groove 53 can be made around a window opening 54.

On the exterior of the building, a series of vertically spaced parallel grooves 55 may be made to give the appearance of clap boards on the exterior surface of the building.

Once the walls have been constructed of concrete the roof can be added with wood in the conventional manner. The rafters can be cut to lay on the top of the wall and tied together by transverse members to which the ceiling for the different rooms is secured.

It should be apparent that there has been provided by this method, a way of constructing houses or buildings in a speedy and expeditious manner wherein the forms are in large sections and units which can be moved without any great disassembly from one floor or foundation wall to another.

It should be further apparent that the forms are of a collapsible nature whereby the inner wall faces of the rooms can be made straight and vertical and without taper, and wherein these inner walls, as well as the outer walls, can be easily grooved to provide and have a pleasing appearance.

While various changes may be made in the detail construction and in the steps in the carrying out of this construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What is claimed is:

1. The method of erecting a building which consists of forming a floor and a foundation wall with a slot running along the wall, setting up an insulating member in the slot, piercing the insulating member with horizontal spacers, fixing reinforcing wire meshes at the opposite sides of the insulating member and connecting the same to the horizontal spacers, setting up inner and outer wall forms on the floor and engaging with the horizontal spacers and to provide a space therebetween, pouring concrete into the space to provide an integral and conglomerate mass, thereafter removing the inner and outer wall forms and finally building a roof structure on the top ends of the wall.

2. The method of erecting a building which consists of forming a floor and a foundation wall with a slot running along the wall, setting up an insulating member in the slot, piercing the insulating member with horizontal spacers, said spacers being formed with pointed ends, fixing reinforcing wire meshes at the opposite sides of the insulating member and connecting said reinforcing wire meshes to said horizontal spacers with pointed ends, setting up inner and outer wall forms on the floor and engaging with said pointed ends of said horizontal spacers in such a manner as to provide a space therebetween, pouring concrete into the space to provide an integral and conglomerate mass, and thereafter removing said inner and outer wall forms and building a roof structure on the top ends of the wall.

3. The method of erecting a building which consists of forming a floor and a foundation wall with a slot running along the wall, setting up an insulating member in the slot, piercing the insulating member with horizontal spacers, setting up inner and outer wall forms on the floor and engaging with the horizontal spacers whereby to provide a space therebetween, pouring concrete into the spaces to provide an integral and conglomerate mass, thereafter removing the inner and outer wall forms.

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