July 15, 1930. R. THOMPSON 1,770,439

BUILDING CONSTRUCTION

Filed Feb. 18, 1929

Fig. 1.

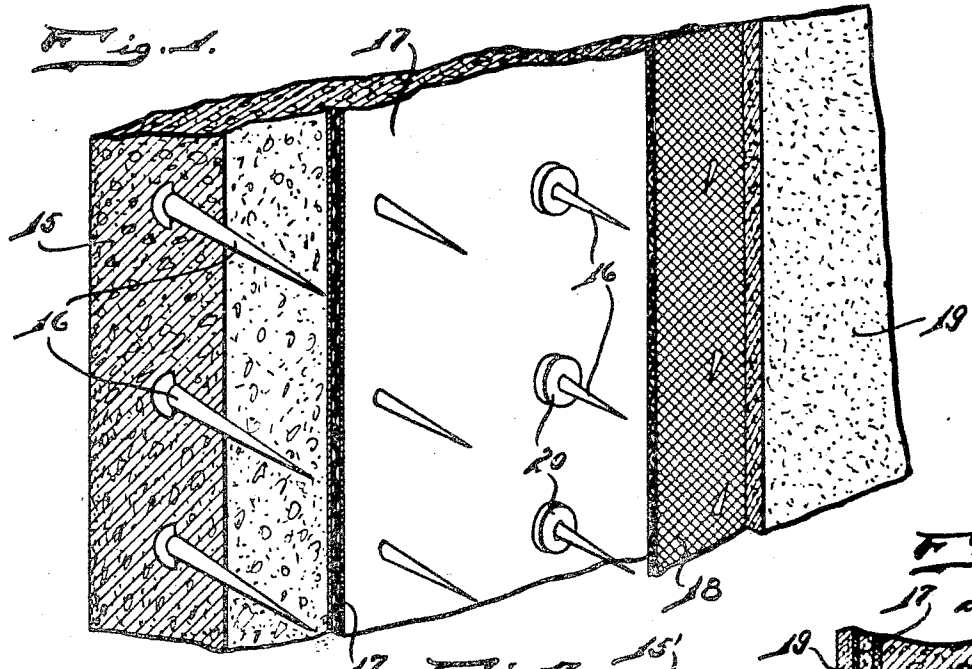


Fig. 2.

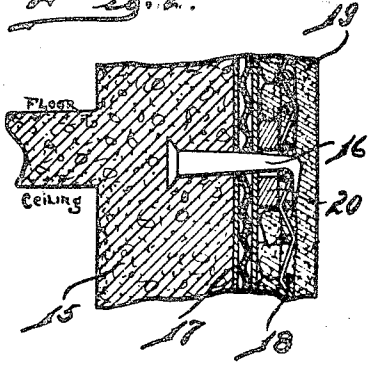


Fig. 3.

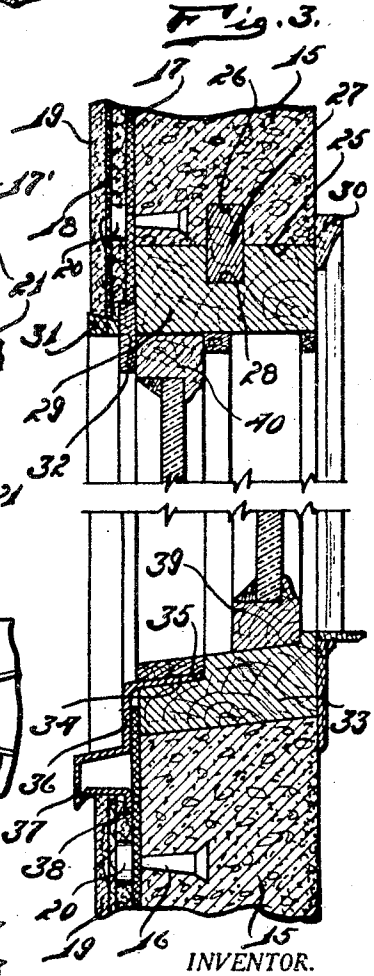


Fig. 4.

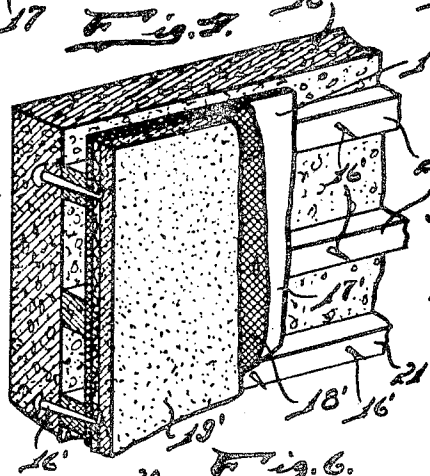


Fig. 5.

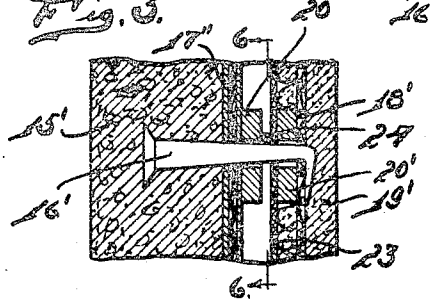


Fig. 6.

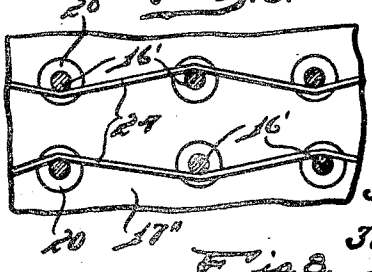


Fig. 7.

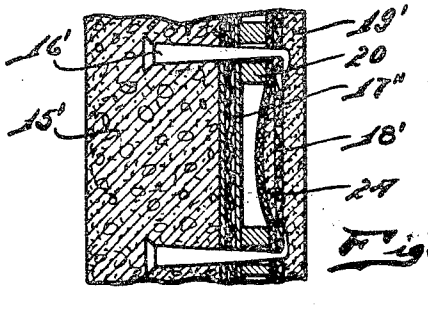
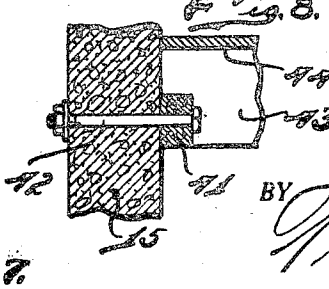


Fig. 8.



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Patented July 15, 1930 1,770,439

UNITED STATES PATENT OFFICE

ROBERT THOMPSON, OF WINDSOR, ONTARIO, CANADA

BUILDING CONSTRUCTION

Application filed February 18, 1929. Serial No. 340,791.

My invention relates to a new and useful improvement in building construction and has for its object the provision of a method of constructing a building primarily from plastic material such as reinforced concrete and the like.

It is an object to provide by this construction, a method of erecting a building which will be economical so as to considerably reduce the cost of construction and which will render the building more resistant to change in temperature owing to weather conditions.

It is another object of the invention to provide in a construction of this class of a method of insulating so that the presence of drafts and other undesirable conditions, such as dampness, etc., may be obviated, and also to make the walls and floors act as reservoirs of heat so that when furnace heat is closed down, the rooms will have an even temperature from these walls and floors which will act as radiators.

It is another object of this invention to build a fireproof building cheaply, as the insulation reduces the thickness of the walls—the walls being thinner as they are only designed for strength and do not require to be made thick for insulating purposes.

It is another object of the invention to provide a method of building in mining districts where the building will settle in one piece, thus avoiding unsightly cracks.

It is another object of this invention to provide a building with unskilled labour so eliminating the various trades as in other constructions.

It is another object of this invention to provide a building which can be sluiced with a hose on walls and floors so as to get rid of vermin easily.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed which are connected to reinforced concrete walls and floors. The floors, however, may be changed to wooden joist floors or trussed floors and slabs of common construction.

The invention will be best understood by a reference to the accompanying drawings which form a part of this specification, and in which,

Fig. 1 is a fragmentary perspective view of the invention with parts broken away.

Fig. 2 is a fragmentary sectional view of a wall showing the invention in use.

Fig. 3 is a fragmentary sectional view of a wall showing the invention in use and illustrating a window mounting.

Fig. 4 is a fragmentary sectional view of a modified form of the invention.

Fig. 5 is a fragmentary sectional view of a further modified form of the invention.

Fig. 6 is a view taken on line 6—6 of Fig 5.

Fig. 7 is a fragmentary sectional view of a further modified form of the invention.

Fig. 8 is a fragmentary sectional view illustrating the method of attaching joists in the building.

This invention consists in erecting a building from plastic material such as concrete and to this end forms are erected to provide the necessary outline of the building, such as walls, partitions, etc. Concrete, in a plastic state, is then poured into the forms and thoroughly tamped so as to provide the concrete wall 15. Embedded in this wall and projecting outwardly beyond the outer face thereof are nails 16 or other similar fastening means, these nails projecting at suitable points and spaced apart any desired distances. Applied to the outer surface of the wall 15 is a layer 17 of insulating material such as the well known keystone insulation, plaster board etc., various kinds of which are obtainable on the market. The nails 16 project through this layer 17 of insulation and also through and are doubled over upon a layer 18 of wire mesh such as chicken wire or the like which engages spacers such as washers 20 which are held in position by the nails 16. The layer of wire 18 serves as a suitable support for the finish coat 19 with which the exterior of the wall is finished. If desired, the inner surface of the wall may be plastered or otherwise suitably covered or the concrete itself may be finished to a smooth finish.

As shown in Fig. 2, the plaster coat 19 pro-

jects through the mesh of the screen 18, thus protecting the mesh from rusting.

In Fig. 4 I have shown the wall structure 15′ provided with the nails 16′ which project through the insulation 17′ and the chicken wire 18′. This chicken wire is held in engagement with the insulation 17′ by nails projecting from strips of wood or concrete 21 which engage the layer 17 of insulation, thus forming between the wire screen and the wire of insulation 17′ an air space which serves further to insulate the wall structure against variations in temperature and dampness. This layer of insulation 17′ may consist of tar paper, felt or some of the commercial brands of insulation referred to.

In Fig. 5 I have shown a somewhat similar construction in which the wall 15′ is engaged by a layer 17″ of insulation and against which engages the spaced members 20 which are held in position by the nails 16′, these nails being clenched upon the wire screen 18′ on which is positioned the outer coat 19′ of plastic material, the wire screen engaging the washer 20′.

Engaging between the washer 20 and the washer 20′ is a layer 23 of tar paper, felt or the like. Wires 24 extend horizontally and in engagement with the nails 16′ so that when the construction is completed, these wires serve to bind the assembled whole and connect the nails together. The wires 24 provide a support for the tar paper when plaster is being applied.

In the form shown in Fig. 7, the wall 15′ is illustrated as being engaged by the insulating layer 17″ against which engage the spacers 20, the nails being clenched over the screen 18′ which engages at its inner face a layer 24 of tar paper, felt or other suitable insulating material. As shown in Fig. 7, when the outer coat 19′ is applied, the inward projects of this outer coat will serve to belly the felt or tar paper inwardly.

In Fig. 3, I have illustrated a window opening 25 which is formed in the wall 15. A recess 26 is formed in the wall at the side and top of the window opening and in this recess engages as a press fit, the wooden strip 27 which also engages in a recess 28 formed in the window frame 29, thus securely anchoring the window frame in the window opening 25. As shown in Fig. 3, the finished coat 19 as well as the insulation 17 is extended below the joint 25 so as to securely seal the space between the window frame 29 and the opening, should there be any space. A molding strip 30 serves to cover the crevice at the opposite side of the wall. A molding strip 31, which is formed with its upper surface inclined inwardly and downwardly, engages the lower end of the finished layer 19, thus effecting a seal at this point, this strip being secured to the frame, 32. The sill 33 is provided with a recess 34 in which engages the angularly turned end 35 of a metal strip which is downwardly bent as at 36 and provided with the outwardly extending hollow trough-shaped portion 37 provided with the angularly turned end 38, thus effectively sealing the window frame in the opening. The metal strip 37 thus takes the place of a stone or concrete sill. In this frame, the window sashes 39 and 40 are mounted and operate in the usual manner. Although wooden frames are shown the same principle can be used with metal sash and frames.

Although the usual construction of floors is a reinforced concrete slab, I have illustrated the method of using wooden joists. In Fig. 8, I have illustrated the joist 41 secured to the wall by means of the bolt 42. Positioned on and supported by the joist 41 are the joists 43 which carry the flooring 44. The flooring 44 may be of wood or concrete.

As already stated, the general construction will be reinforced concrete wall and floor slabs. The floor slabs will be covered with linoleum. When wooden floors are required the flooring will be nailed to wooden sleepers which will be connected to galvanized strips let into concrete when wet. No cinder fill will be necessary around wooden sleepers.

With the interior of the building constructed of reinforced concrete walls and slabs, a sanitary construction is afforded in that a thorough cleansing of the building may be easily, quickly and cheaply accomplished as the presence of crevices is reduced to a minimum. Furthermore, a construction of this kind lends itself well to a ground which is subsiding or of a loose nature as a rigid construction is economically achieved. The economy of construction is believed apparent when consideration is given to the reduced labour costs, particularly as to tradesmen, bricklayers and the like.

While I have illustrated and described the preferred form of my invention, I do not wish to limit myself to the precise detail of structure shown but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A construction of the class described comprising: a main wall structure formed from setting plastic material; a plurality of securing means embedded in and projecting outwardly from one face of said plastic material; an insulating layer secured in engagement with said plastic material; a screen secured by said securing means; and a finish coat supported by said screen.

2. A building structure of the class described comprising: a poured wall structure adapted for hardening after setting; a plurality of securing means projecting outwardly from one face of said wall structure; spac-

ing members supported by said securing means; insulating means supported by said securing means and in engagement with the surface of said wall structure; a screen supported by said securing means; and a finish coat mounted on and penetrating through said screen.

3. In a building of the class described: a wall structure formed from plastic material adapted for hardening upon setting; securing means embedded in and projecting outwardly from one face of said wall structure; an insulating layer secured on said wall structure by said securing means; a screen; a finish coat mounted on said screen; and spacing members interposed between said screen and said wall structure for providing an air space.

4. In a building construction of the class described: a wall structure formed from plastic material adapted for hardening upon setting; an insulating layer engaging one of the faces of said wall structure; a screen; spacing members spacing said screen from said insulating layer; securing means imbedded in said wall structure and projecting through said insulating layer, said spacing members and said screen for securing the same in position on said wall structure; and a plastic finish coat mounted on said screen.

In testimony whereof I have signed the foregoing specification.

ROBERT THOMPSON.