

July 15, 1941.

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2,249,073

COMBINATION PLASTER BASE AND INSULATING BLOCK

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2 Sheets-Sheet 1

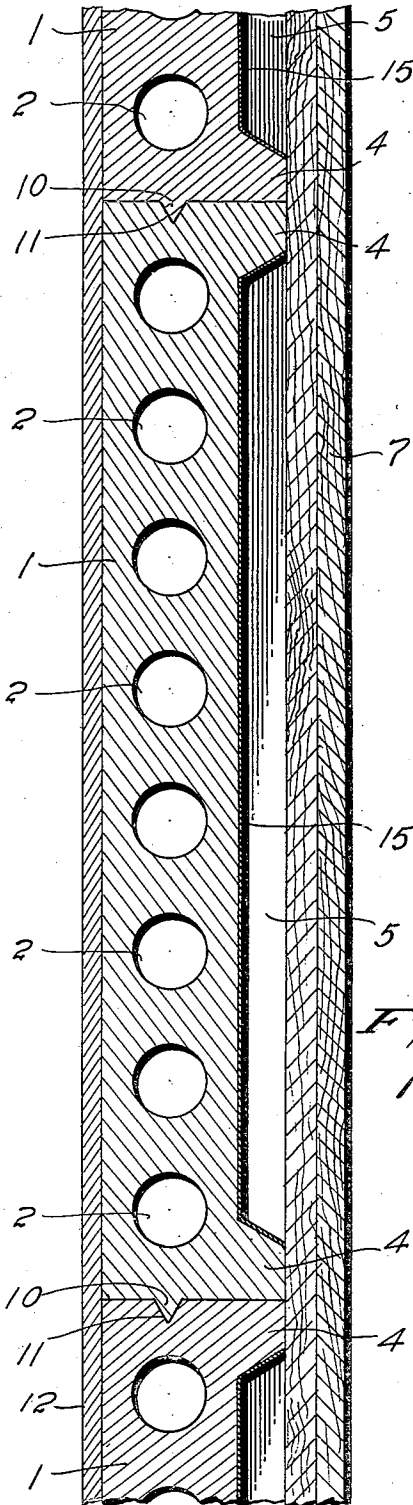


Fig. 1.

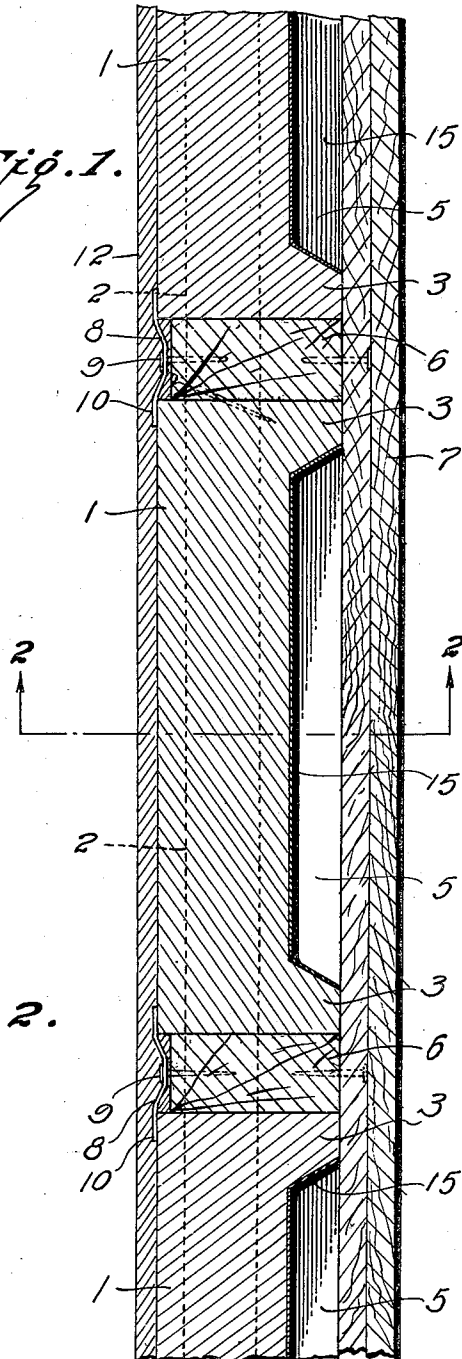


Fig. 2.

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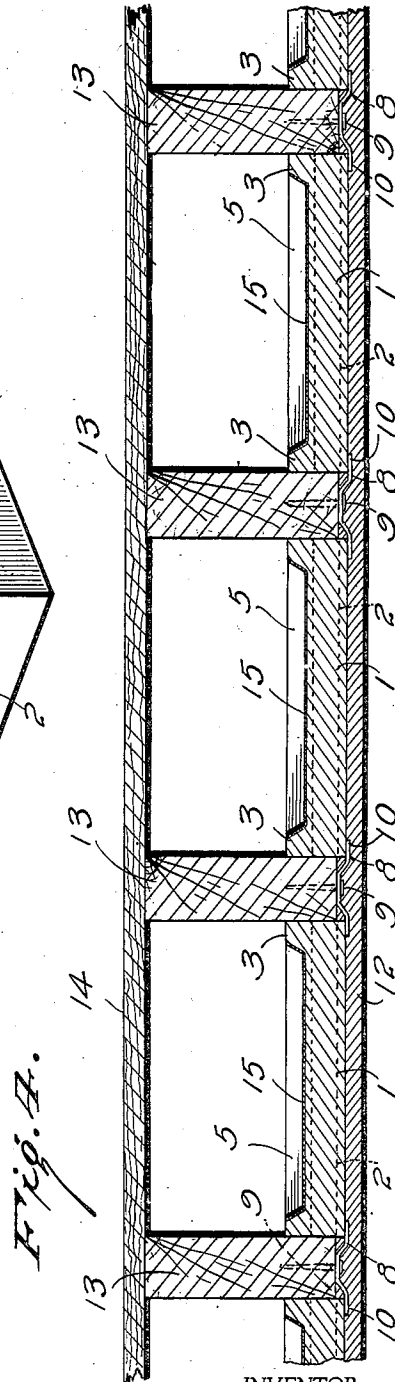
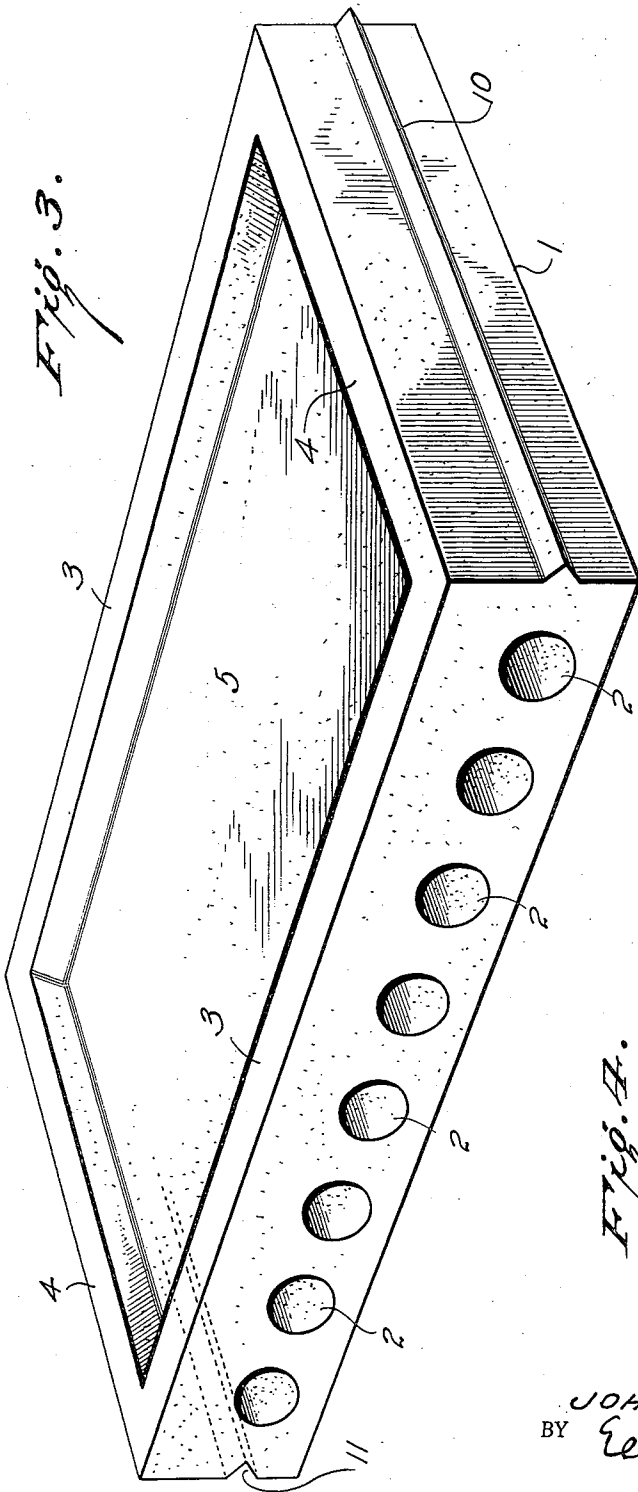
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COMBINATION PLASTER BASE AND
INSULATING BLOCK

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2 Claims. (Cl. 72—31)

The present invention relates to a combined plaster base and insulating block and its use in building constructions.

It is common practice, particularly in residential construction, to build walls with vertical spaced apart studs, to one side of which the outside finish is applied, such as sheathing, clapboard, shingles, stucco, etc., with metal or wood lath applied to the opposite edges of the studs for the purpose of carrying plaster. One of the objections to such construction is that the thickness of the plaster carried by the lath is so thin as to have no effective insulation value, making necessary the use of additional insulating units where effective barriers against the passage of heat are desired.

Another objection to such usual construction resides in the fact that back of the lath and plaster and between it and the outside finish, such as sheathing, there is an air space extending from top to bottom of such walls and defined on the sides by the sides of the studs. This space is usually so large as to induce convection currents therein which makes for air leakage while at the same time, in case of fire, this space creates a considerable draft, all of which is detrimental.

It is a principal object of the present invention to provide a single unit which may be inserted between studs which will serve at one and the same time as an insulating unit, a plaster base and a fire stop.

Another important object of the invention is the provision of such units which may be factory cast and of a material that can be easily cut and sawed on the job and, consequently, fitted to the particular circumstance at hand.

The herein described combined plaster base and insulating block either used as a fire stop or not, as the case may be, is equally applicable to be set in between the joists of roofs and ceilings as well as walls.

To this end, the invention contemplates a factory made unit of any suitable material such as fibre, gypsum, mica pellets, Portland cement compositions, etc., with or without admixtures and preferably of a porous nature in order to enhance its insulating value. For added lightness or increased insulating value, units may contain a series of core holes. The unit may be provided on one face with a continuous peripheral projection, so that at the edge of the unit, its thickness is greater than at the center. The invention also contemplates an interlock between units so that one may be readily positioned with respect to the other to form a substantially tight joint

therebetween without the interposition of grout, plaster or other sealing means.

In building constructions involving such units, the invention contemplates means to provide a bridge across the studs or joists and for securing such units in place between the studs or joists such as by clips or the like fastened to the stud and extending over one face of the unit.

The invention further contemplates the arrangement, combination and construction of parts more fully hereinafter described and shown in the accompanying drawings, in which—

Fig. 1 is a sectional plan view of a building construction showing the unit applied in a wall;

Fig. 2 is a section view along the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of a unit embodying the present invention;

Fig. 4 is a sectional elevation through a floor showing the units used as a plaster base for a ceiling.

Referring now with particularity to Fig. 3, the unit is shown to consist of a slab or block 1, of gypsum, concrete or other of the above-mentioned materials which may be factory cast with or without admixtures of wood chips, cinders, expanded vermiculite, or other substances used to lighten or increase porosity. Such a unit may be provided with a series of core holes 2 extending laterally therethrough. As shown, the block is dished on one face by reason of a projecting edge or rim 3 on its longer dimension and a similar rim 4 on its shorter dimension, thus forming a cavity 5 therebetween.

With reference to Fig. 1, wall studs are shown at 6 spaced at the usual intervals of 16 inches which, of course, may be varied to fit the circumstances. Outside finish 7 is applied to the studs in the usual manner. The cast units are shown at 1 of a width substantially occupying the space between studs with sufficient clearance to take care of any irregularities in either manufacture of the units or unevenness in the studs. The overall depth or thickness of the units at their edges should be in this case slightly greater than the depth of the joists.

As shown, the edge or rim 4 of the units closely abuts the outside finish 7 so that the cavity 5 defined by the edge or rim 4 forms a dead air space which has definite insulation value. At the same time, the core holes 2 extending laterally through the block constitute a series of dead air spaces within the unit itself.

As each unit is laid between the studs from the floor up, it is secured to the stud by means of a

strip or clip 8 fastened as at 9 to the stud and extending over the face of the unit as at 10. Ordinarily, it will not be necessary to secure the ends of the clip to the unit but where desired, this may be done by nailing or the like. It is preferable that the clip be constituted by a strip of metal lath in order to provide a bridge for the plaster over the stud.

Inasmuch as opposite narrow edges of the slab are provided with complementary tongues 10 and grooves 11 as the series of units is built up between joists, these parts key together, which effectively holds them in place without the interposition of grout, mortar or cement.

After the units are in place, one or more coats of plaster 12 may be applied thereto directly over the face of the slabs and the joints between them including the face of the studs.

As applied to floors or roofs, the joists thereof are shown in Fig. 4 at 13. The units 1 may be applied thereto in a similar manner as described for walls or, where desired, the clips 8 may be first put in place on the under or inner faces of the joists and the units 1 dropped down between the joists from the top before the floor or roof material 14 is applied. Under these circumstances, the units rest upon and are held in position by the clips 8. Where desired and in the case of a ceiling, one or more coats of plaster 12 may be applied as above described.

From the above it will be seen that a unit has been provided which may be readily and cheaply manufactured in quantity and which may at one and the same time serve as an insulating unit, plaster base and a fire stop, and which eliminates individual fitting to a great extent.

The insulation value of a construction embodying these units may be enhanced, if desired, by applying to the surface of the cavity, a sheet 15 of some heat reflecting material such as metal foil, while at the same time such surface is substantially waterproofed. In like manner, asphaltic compositions may be applied so as to prevent moisture penetration.

While the invention has been shown and described with specific reference to particular embodiments, it is to be understood that it is not to be limited thereto, but is to be construed broadly and restricted only by the scope of the claims.

I claim:

1. A building construction including spaced apart studs or joists, units secured therebetween including precast units of insulating material, said units being tongued and grooved together with an outside finish material secured to the studs or joists, the units contacting with said outside material at the unit periphery, with a dead air space between the unit and the finish material.

2. A building construction including spaced apart studs or joists, units secured therebetween including precast units of insulating material, said units being tongued and grooved together with an outside finish material secured to the studs or joists, the units contacting with said outside material at the unit periphery, with a dead air space between the unit and the finish material and with heat reflecting metal foil secured to the surface of the unit defining the dead air space.

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