Feb. 13, 1940. C. J. ULRICH 2,189,872

CONCRETE BUILDING WALL CONSTRUCTION

Filed Oct. 14, 1937 2 Sheets-Sheet 1

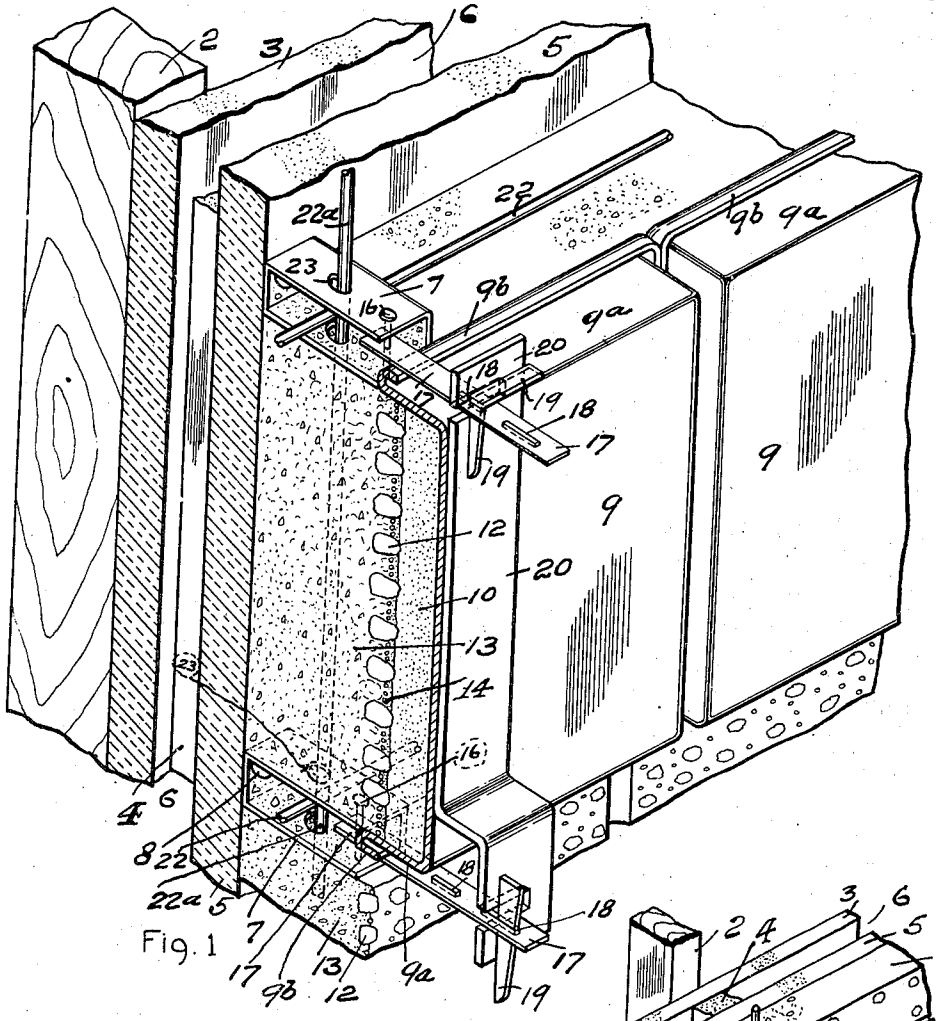


Fig. 1

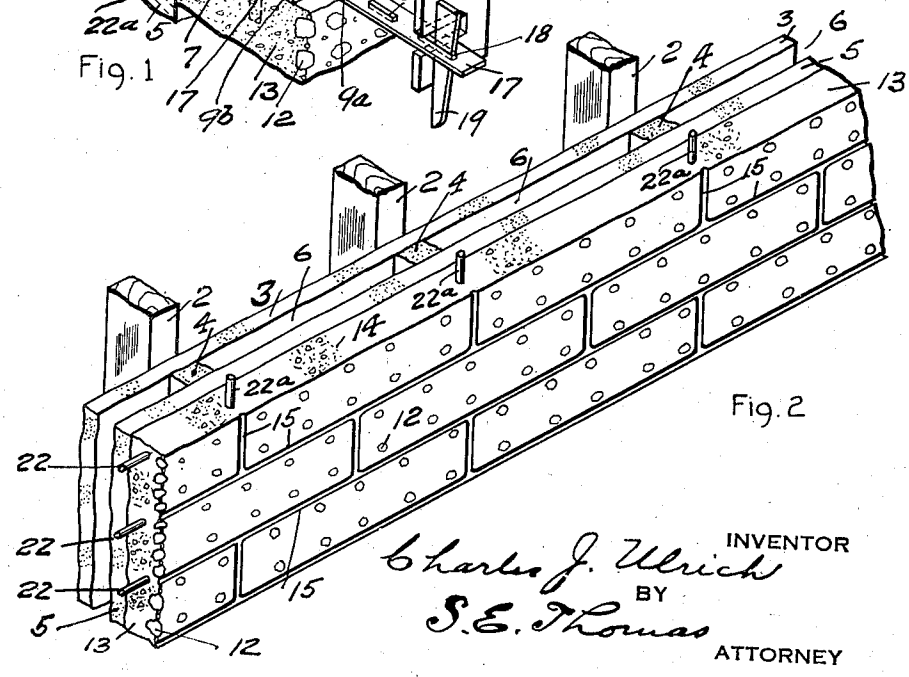


Fig. 2

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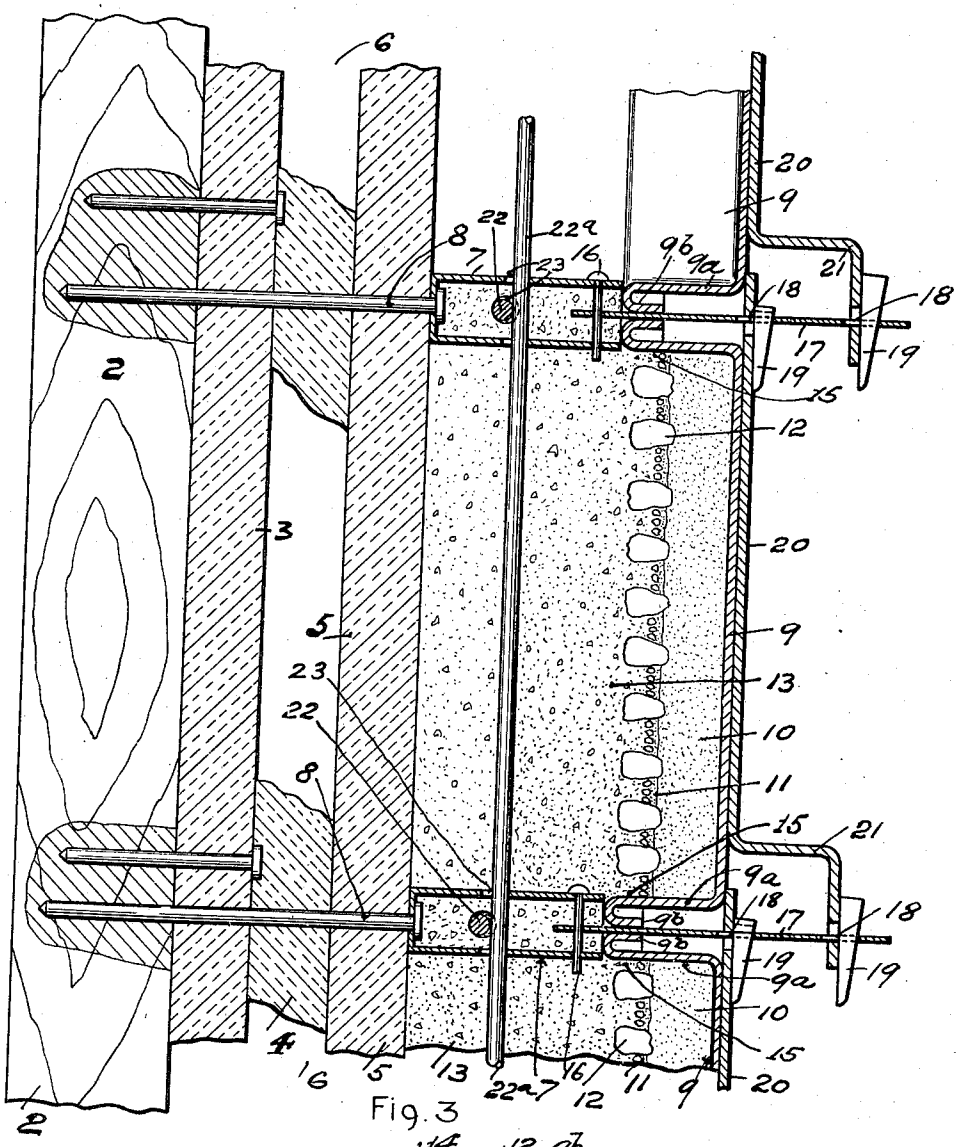


Fig. 3

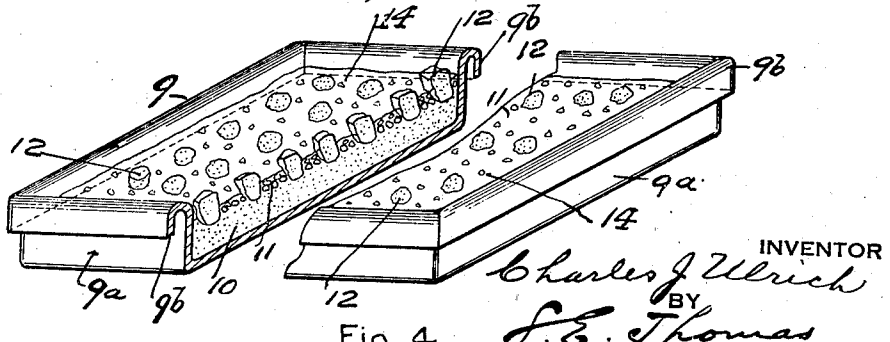


Fig. 4

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UNITED STATES PATENT OFFICE

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CONCRETE BUILDING WALL CONSTRUCTION

Charles J. Ulrich, Royal Oak, Mich.

Application October 14, 1937, Serial No. 168,981

1 Claim. (Cl. 18—60)

My invention relates to a unitary concrete building wall construction, shown in the accompanying drawings and more particularly pointed out and described in the following specification and claim.

In the drawings accompanying this specification:

Figure 1 is a sectional perspective view showing the wall in process of formation, with the molds or trays locked in spaced relation to a sheathing, between which and the molds a concrete mixture is poured.

Figure 2 is fragmentary perspective view of the concrete wall as it would appear following the removal of the molds or trays.

Figure 3 is a vertical cross-sectional view through the wall showing the molds or trays locked in position to receive the concrete mixture.

Figure 4 is a sectional perspective view of one of the trays, filled with plastic clay and coated with a semi-fluid clay, in which is embedded chips of stone and stucco that later become an integral facing of the concrete wall.

The primary object of the present invention "is to construct a wall on the job" and it consists in first securing directly to the studding 2, of the building a sheathing 3, preferably of "Celotex", nailed directly to said studding.

Vertically spaced strips of Celotex 4, are interposed between said Celotex sheathing and a second sheathing of Celotex 5, spaced from the first named sheathing to provide an air space 6, between the respective sheathings.

Anchoring devices 7, preferably constructed of a non-heat conducting material, are secured to the outer Celotex sheathing by nails 8, driven through the spaced sheathings 3—5, into the studding 2, the anchoring devices serving as abutments for a plurality of sheet metal molds or "trays" 9, clamped thereto, in uniformly spaced relation to the outer or second sheathing 5, of Celotex.

A plurality of trays 9, formed of sheet metal of a suitable depth, are partially filled with plastic clay 10, which is then given a coating of semi-fluid clay 11, of somewhat "sticky" consistency.

Onto this surface are forced chips of stone 12, that they may temporarily adhere or be embedded in the clay 10, lodged in the tray, until they later become an integral part of the wall 13, developed by pouring concrete between the outer sheathing of Celotex 5, and the clay 10, deposited within the trays.

The semi-fluid clay 11, is then sprinkled with powdered stucco 14, which later forms the outer finished surface of the walls.

The walls 9a of the sheet metal molds or trays, have a return bend 9b, at their open outer face, which in conjunction with the return bends of adjoining molds or trays forms an indenture 15, in the concrete, sometimes called the "scratch out" which marks the line of demarcation between the "blocks of stone."

Respectively connected with the several anchoring devices 7, by removable pins 16, are thin strips of metal 17, having elongated slots 18, to receive tapering keys 19, adapted to engage transversely slotted bars 20, extending across and back of the trays, whereby the walls of the trays are forced into and held in abutting contact with the projecting ends of the anchoring devices 7; being locked in that position by the tapering keys. The bars 20, are "stepped" at one end (21) as indicated, to avoid any possibility of the lower tapering key contacting the upper end of the adjacent transverse bar. The tapering keys 19, engaging the underlying end of the bar are bent at right angles that they may be more easily removed, and without danger of interference with the overlapping end of the adjacent transverse bar.

Extending vertically and horizontally through openings in the anchoring devices 7, are reinforcing rods 22 and 22a, which are pushed through the openings 23, in the anchoring devices as the concrete wall is developed horizontally and upwardly; the wall being thus knitted together as an integral, unitary structure.

To construct a wall the concrete mixture is poured between the outer Celotex sheathing 5, and the clay filled molds 9, in which are temporarily held chips of stone 24, and stucco 25, to provide a finished surface for the face of the wall. The reinforcing rods 22, 22a, are pushed through the vertically and horizontally disposed openings 23, in the anchoring devices 7, as the wall is developed horizontally and vertically. Upon the concrete "setting" sufficiently, the molds or trays are removed, beginning at the bottom and working both horizontally and upwardly. Upon the removal of the trays the ends of the thin strips of metal 17, that may project are clipped off and the surface of the wall is then washed to dislodge any semi-fluid clay that still adheres to its surface, whereupon the job is finished.

While I have described my invention as applied to building wall construction, it is obvious that it is adapted for other concrete construction work.

What I claim is:

The method of constructing a section of concrete wall, consisting in supporting a plastic clay along one face of the wall of a mold, applying a layer of more fluid clay to the inner surface of the first mentioned clay, applying stucco material and partially embedding the same in both layers of clay, pouring the concrete between the walls of the mold, allowing the same to set and removing the molds and washing away the clay, leaving the stucco partially embedded in the concrete.

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