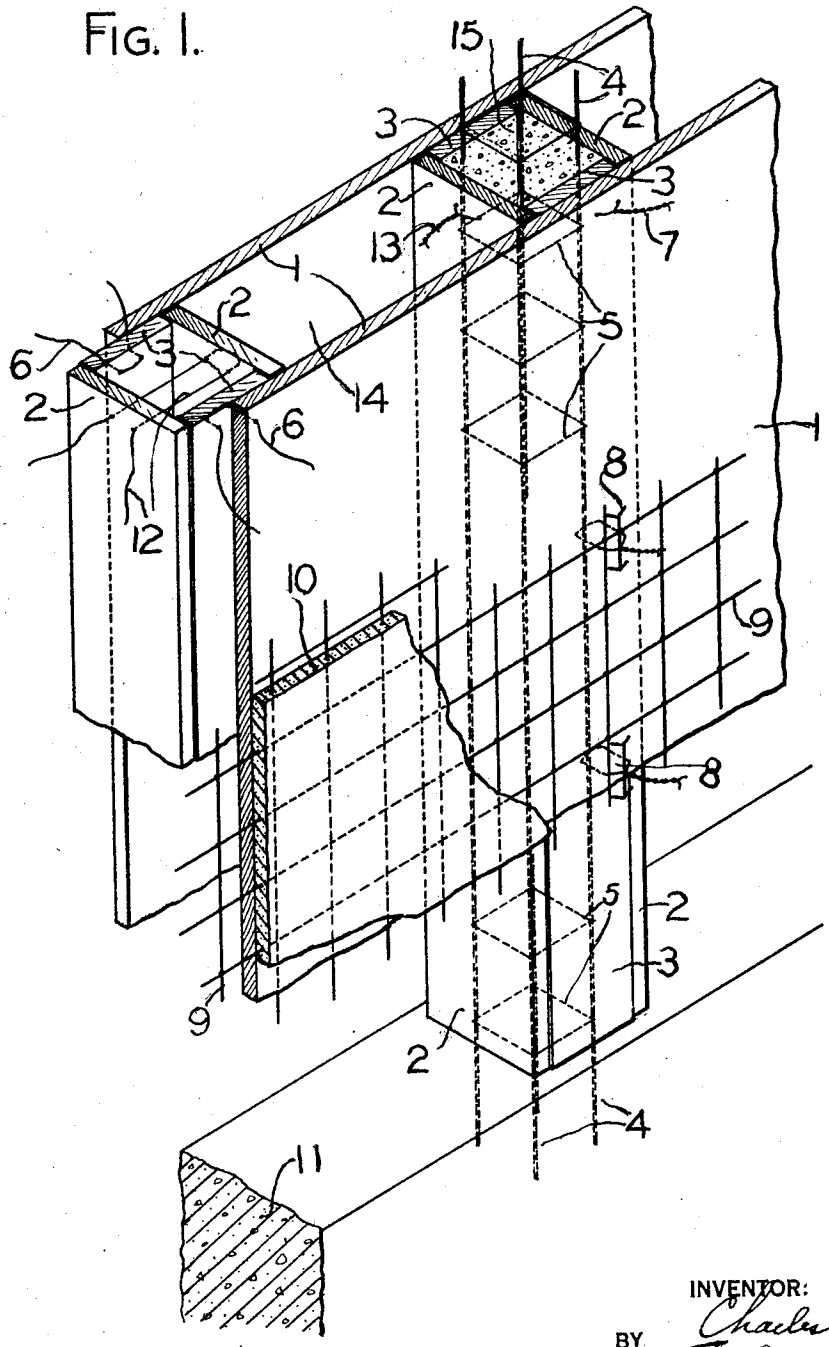
Nov. 10, 1931. C. S. BARR 1,831,088

WALL FOR BUILDINGS

Filed Sept. 18, 1929 2 Sheets-Sheet 1

FIG. 1.



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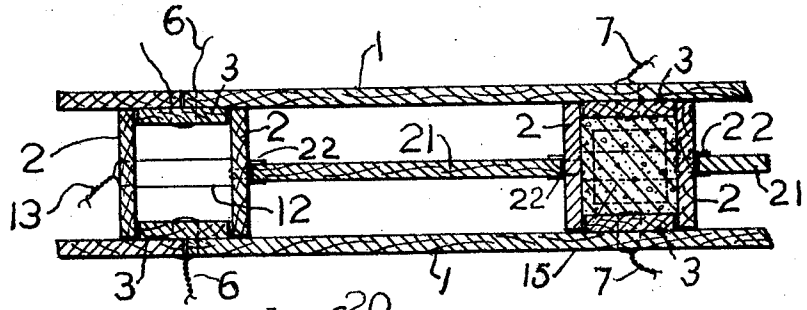


FIG. 2.

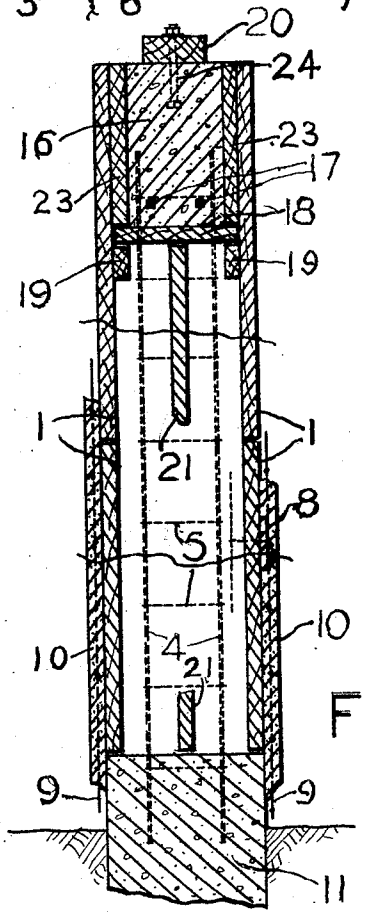


FIG. 3.

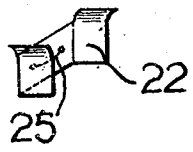


FIG. 4.

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UNITED STATES PATENT OFFICE

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WALL FOR BUILDINGS

Application filed September 18, 1929. Serial No. 393,442.

This invention relates to wall construction of buildings, and has for its object to provide strong, durable, and non-expensive walls having much better insulating qualities than solid masonry walls of greater thickness. Thus a ten inch wall constructed in accordance with the present invention will have a much better insulation than a thirteen inch brick wall, all as will hereinafter more fully appear.

In the accompanying drawings Fig. 1 is a view in perspective of a broken out section of a wall constructed in accordance with the present invention. Fig. 2 is a horizontal section showing a slightly modified form of the invention. Fig. 3 is a vertical section of the improved wall construction. Fig. 4 is a detail view of a clip which will preferably be used in connection with the modified construction shown in Figs. 2 and 3.

Referring to the drawings, 1 denotes the opposite sides of the improved wall and which will preferably be of fiber board of high insulating character and sold on the market under such trade names as "Cellotex", "Masonite", "Insulite" etc. These fiber boards usually have a thickness of about half an inch, more or less, and the surfaces of these fiber boards are somewhat rough.

Between these fiber boards are spaced-apart reinforced concrete columns 15 within sides 2 and 3, preferably of fiber boards, and which afford boxes into which the concrete may be poured. The reinforcement of these concrete columns preferably consists of vertical rods 4 within horizontal encircling wire hoops 5 spaced apart from each other. The sides 3 of the boxes enclosing the concrete columns are preferably attached to the side fiber boards 1 by wire ties 6 and 7, and the sides 2 of the said boxes are preferably connected together by wire ties 12, the ends of which may be twisted together, as at 13.

The wall structure thus far described will preferably be covered on both sides by plastic material 10, of stucco or plastering, the covering being preferably effected by first applying a wire fabric lathing 9 held slightly separated from the sides 1 by metal chains 8 or otherwise. this wire lathing thus securely attaching the stuccoing or plastering material 10 to the side boards 1 of the improved walls.

The wall thus far described will preferably rest on a concrete foundation 11 on which the vertical, spaced-apart concrete columns 15 will rest and into which the reinforcing rods 4 of the said columns may extend, as shown in the drawings.

The concrete columns 15 will preferably be capped by a girth beam 16 of reinforced concrete mainly supported by said columns, and which beam will be within the side fiber boards 1 which may extend to the top of said beam, as shown in Fig. 3. The concrete beam 16 may be reinforced by longitudinal metal bars 17, and, between said columns, may rest on boards 18 supported in turn by longitudinal strips 19 of metal or wood and which may be attached in any suitable manner to the side boardings 1.

Surmounting the beam 16, and suitably attached thereto, as by bolts 24 extending into the said beam, is a wooden plate 20 to which the rafters or joists of the building may be attached. Boards 23, of fiber or wood, may be placed between the beam 16 and the boards 1.

The insulation of the improved wall, constructed as hereinbefore described, may be increased by division boards 21 located in the spaces 14 of the wall, and held in place by clips 22 attached to the sides 2 of the boxes of the concrete columns by wire ties 25, these division boards forming double air spaces between the concrete columns.

From the foregoing it will be understood that the invention provides a wall structure of very high insulating quality. While the sides 1 of the walls and the column-enclosing boxes, afforded by the members 2 and 3, will preferably be composed of the insulating fiber boards hereinbefore referred to, it will be understood that these parts may be ordinary wooden boards, if desired; although the fiber boards are preferred for the reason that they are not subject to subsequent shrinking, warping or dry rotting, and have usually somewhat roughened surfaces to which the

plastering or stuccoing will naturally adhere somewhat.

Having thus described my invention I claim and desire to secure by Letters Patent:

1. A wall construction comprising separated vertical concrete columns, with air spaces between them, boards forming the sides of the wall, four-sided vertical boxes of insulating material enclosing said columns, and wire ties attaching the side members of said boxes to the side wall boards and also connecting the other two box members of said boxes together.

2. A wall construction comprising separated concrete columns, with air spaces between them, non-conducting boards forming the sides of the wall, and non-conducting boards inside of the side wall boards, at the four sides of said columns, and thus fully enclosing them, the four side boards forming boxes into which the concrete forming said columns may be poured.

3. A wall construction comprising separated reinforced concrete columns, with air spaces between them, non-conducting boards forming the sides of the wall, non-conducting boards inside of the side wall boards, at the four sides of said columns, and thus fully enclosing them and serving as boxes into which the concrete, forming said columns, may be poured, metal lathing outside of the side wall boards and spaced apart from said last-named boards, and hardened plastic material, in which said metal lathing is embedded on the outsides of the side wall boards.

4. A wall construction comprising separated concrete columns, said columns being reinforced by vertical rods, insulating fiber boards forming the sides of the wall, non-conducting fiber boards, inside of the side wall boards, at the four sides of said columns and thus fully enclosing them, a concrete girth beam surmounting said columns, and a concrete base beneath said columns, said reinforcing rods extending into said girth beam and base.

5. A wall construction comprising separated concrete columns, said columns being reinforced by vertical rods, insulating fiber boards forming the sides of the wall, non-conducting fiber boards, inside of the side wall boards, at the four sides of said columns and thus fully enclosing them, a concrete girth beam surmounting said columns, a concrete base beneath said columns, said reinforcing rods extending into said girth beam and base, and a plate beam overlying and attached to said girth beam.

In testimony whereof I affix my signature.

CHARLES S. BARR.