Nov. 1, 1938. E. S. GUIGNON, JR 2,134,941

BUILDING BLOCK

Filed Jan. 12, 1938

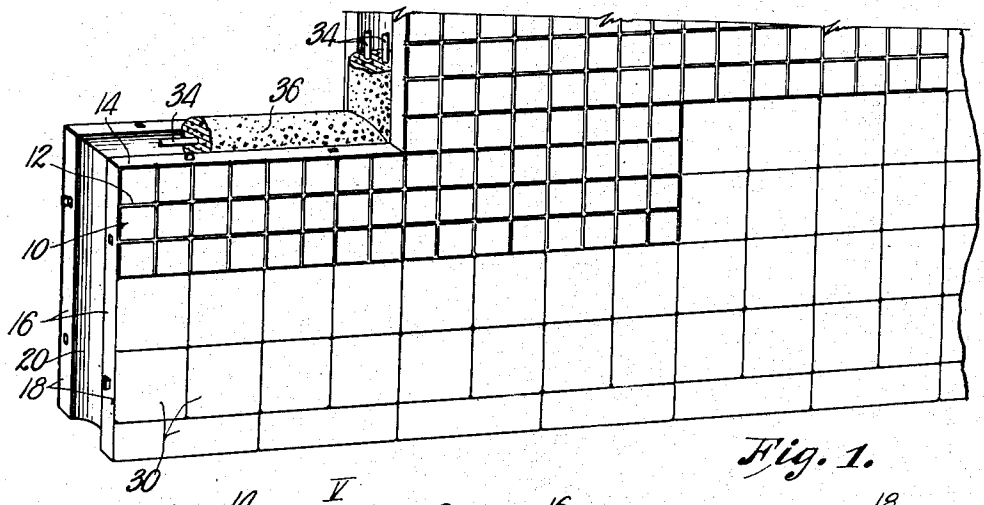


Fig. 1.

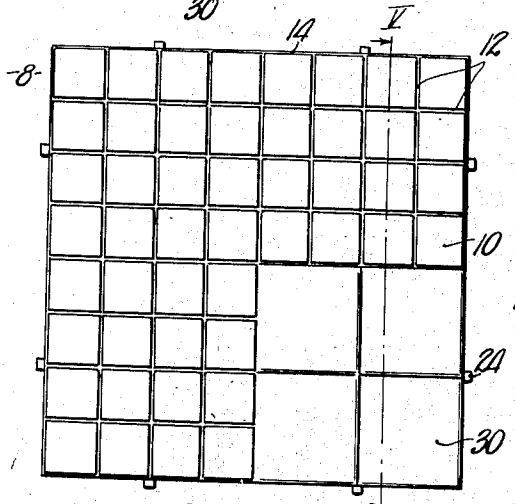


Fig. 2.

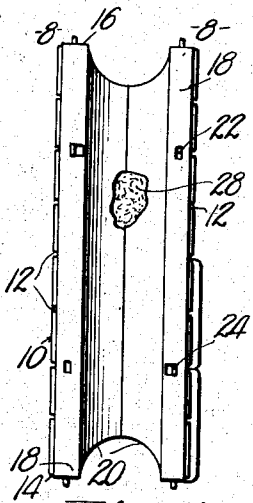


Fig. 4.

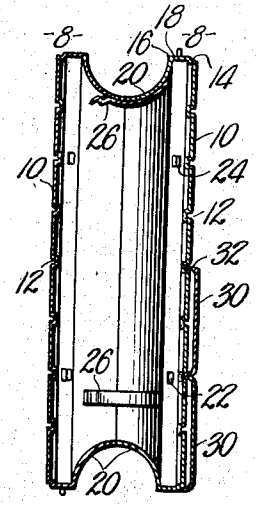


Fig. 5.

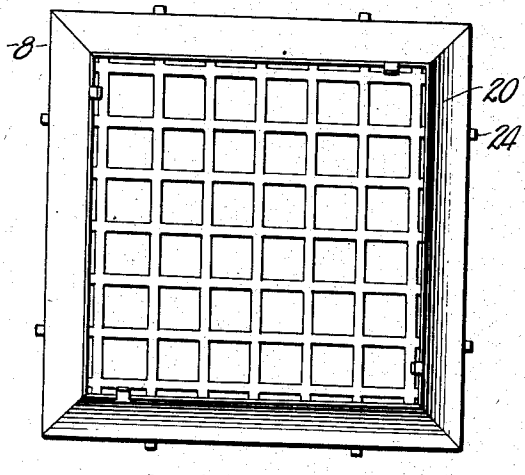


Fig. 3.

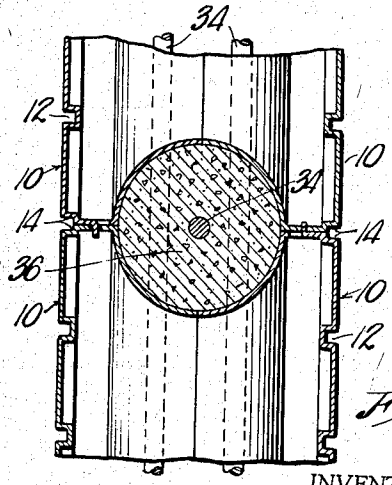


Fig. 6.

INVENTOR.
Emile S. Guignon, Jr.
BY Hovey & Hamilton,
ATTORNEYS.

Patented Nov. 1, 1938

2,134,941

UNITED STATES PATENT OFFICE

2,134,941

BUILDING BLOCK

Emile S. Guignon, Jr., Kansas City, Mo.

Application January 12, 1938, Serial No. 184,607

9 Claims. (Cl. 189—34)

This invention relates to building units in the nature of a block formed of sheet metal and comprising two complementary halves that may be fitted together on the job and filled with insulating material so as to present a wall that is strong and effective in maintaining a completely insulated condition within the building.

The primary object of this invention is to provide a building block that is light, strong and susceptible of receiving on either face a desirable finish without the use of intermediate sheet material or the like, to the end that the inner and outer faces of a building wall might have vitreous material thereon presenting weatherproof finishes of desirable design, color and appearance.

A further object of this invention is the provision of a sheet metal building block which comprises a pair of hollow tray-like sections that may be secured together through the medium of clips or the like, carried by one of the sections and engageable with a complementary section so that assembly might take place at the point of construction and without the use of special equipment or tools.

A yet further aim of this invention is to provide a building block of the aforementioned character which has a specially formed side wall that may receive and hold flanged sheet metal blocks which present the appearance as though the wall was constructed of tile or other ceramic units.

An even further object of the invention is to provide a sheet metal building block that has means on the edge walls thereof for preventing accidental displacement of stacked blocks during the formation of a wall therefrom.

Heretofore building blocks have been made of cement or other moldable materials, which adds weight to the building block and necessitates the use of a plastic material when creating a wall therefrom. Blocks having a continuous concave groove extending entirely around the edges thereof, have been made of cement and after stacking have been reinforced through the use of rods and additional cement disposed within the grooves and passageways that are formed when the blocks are brought together in edge to edge relation. This well-known manner of reinforcing blocks, while used in connection with the sheet metal building block contemplated by this invention, is not claimed as a new expedient in the formation of building walls—its function however, is necessary because of the reduced weight in the building block portion of the wall when sheet metal units are employed.

The advantages of a sheet metal building block at once becomes obvious to those skilled in the art. Manifestly the block may be made quicker, it is cheaper to construct, both with regard to time and materials, it presents very thin walls so that insulating material employed may be thicker in the conventional wall than when employing blocks of other material.

The two outer faces of the side walls of the assembled block may be treated by applying vitreous material directly thereto in the manufacturing plant and the necessary "firing" of the coating so applied, may be accomplished in the usual manner without detrimental effect.

Forming flange receiving elements on the flat side walls of the block is possible through the use of dies and when these elements are formed, desirable types of sheet metal blocks may be applied to the outer face of the side walls when the building is completed.

With the foregoing advantages and broad objects in view, the invention will now be described by reference to the accompanying drawing wherein:—

Figure 1 is a fragmentary perspective view of a portion of a building wall made of sheet metal building blocks embodying this invention.

Fig. 2 is a side elevation of the sheet metal building block entirely removed from association with any other part of a building wall.

Fig. 3 is an elevational view of the open side of one of the sections of the building block.

Fig. 4 is an edge elevation of an assembled building block.

Fig. 5 is a vertical cross-sectional view through the building block taken on line V—V of Fig. 2, and,

Fig. 6 is an enlarged fragmentary detailed sectional view through a portion of a building wall at the zone of juncture between two adjacent blocks.

The block is preferably formed of two hollow tray-like sections made alike so that any section will combine with another in forming the complete hollow block.

Sheet metal of suitable gauge is employed and it has been found in practice, that a block measuring 12" x 12" x 4" is satisfactory. Each section 8 has a flat side wall 10 wherein is pressed a plurality of grooves 12 extending in intersecting paths across the face of side wall 10 and spaced 1½" apart.

An offset 14 extends around the edge of side wall 10 at the corner formed at the juncture between side wall 10 and edge wall 16. Offset 14 cooperates with the same offset of the next adjoining block when the wall is constructed so as to form a groove along the seam between the blocks.

Edge wall 16 extends laterally from side wall 10 at the periphery thereof and is continuous. The cross-sectional contour of this wall 16 is clearly shown in Figs. 5 and 6 and the wall 16 has a flat portion 18 and an arched portion 20. Flat portion 18 provides a seat for the overlying or

adjoining block, and this part of wall 16 has an opening 22 and an upstanding ear 24 provided thereon. The ears are openings on the various stretches of flat portion 18, must be so arranged as to render the blocks interchangeable and reversible throughout the entire wall structure. It is observed that sections 8 are tray-like in form and the rims of the open sides are contiguous when the block parts are assembled.

Each section 8 has a clip 26 thereon which extends outwardly through the open side of the block section 8 to engage the arcuate portion 20 of the other section of the block. When forcing the sections together, clips 26 will snap in place, and if it becomes necessary to remove one section, it is only required that enough outward force be exerted to overcome the inherent resiliency of clips 26.

A filling 28 of suitable insulating material may be placed within the hollow block and the outer faces of side walls 10 may be covered with sheet metal blocks 30. These blocks 30 are in extensive commercial use and are made to present laterally extending flanges 32, which serve as guide and securing parts. Plastic material is usually spread over the inner face of block 30 before it is moved to position against the outer face of side wall 10, and after the building wall has been made up of blocks formed as above described, any type of facing may be affixed thereto.

The arcuate portions 20 of edge walls 16 on each block cooperate to form a continuous concave groove which extends around the edge of the block. When the blocks are together as shown in Figs. 1 and 6, a tubular space is afforded for the reception of reinforcing rods 34 and a cementitious filling 36.

This reinforced concrete frame-like structure lends rigidity to a wall comprising sheet metal blocks in the nature of those shown and described. It binds together adjoining blocks to such an extent that cement is not needed in the seams created by the abutting flat portions 18. When blocks 30 are in place and the joints therebetween filled by grouting and pointing, the structure is sufficiently solid and tight to withstand the elements and any hard use to which it may be put.

It is obvious that sheet metal building blocks of a specific nature other than those shown and described, might be made to embody the invention without departing from the spirit thereof and the scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A sheet metal building block comprising a pair of hollow tray-like sections having the rims of their open sides contiguous; and means for securing together said sections.

2. A sheet metal building block comprising a pair of hollow tray-like sections having the rims of their open sides contiguous; and resilient means for releasably securing together said sections.

3. A sheet metal building block comprising a pair of hollow tray-like sections having the rims of their open sides contiguous; and a plurality of clips carried by one section and in releasable engagement with the other section for securing together the pair of sections.

4. A sheet metal building block comprising a pair of hollow tray-like sections having the rims of their open sides contiguous; and means carried by the sections for securing together the same, each of said sections having elements for receiving portions of a covering for the outer face of its closed side.

5. A sheet metal building block comprising a pair of hollow tray-like sections; and means carried by the sections for securing together the same, each of said sections having elements for receiving portions of a covering for the outer face of its closed side, each of said sections having a plurality of edge walls, each edge wall having an out-turned ear and an ear-receiving opening for the purpose specified.

6. A sheet metal building block comprising a pair of hollow tray-like sections having the rims of their open sides contiguous; and means carried by the sections for securing together the same, each of said sections comprising a flat side wall, and a laterally extending circumscribing edge wall at the periphery of the side wall, said edge wall having its outer marginal edge arched inwardly to provide space between adjacent blocks of a building for the reception of reinforcing materials.

7. A sheet metal building block comprising a pair of hollow tray-like sections having the rims of their open sides contiguous; and means carried by the sections for securing together the same, each of said sections comprising a flat side wall, and a laterally extending circumscribing edge wall at the periphery of the side wall, said edge wall having its outer marginal edge arched inwardly to provide space between adjacent blocks of a building for the reception of reinforcing materials, said flat side wall of each section being provided with a series of flange-engaging elements.

8. A sheet metal building block comprising a pair of hollow tray-like sections having the rims of their open sides contiguous; and means carried by the sections for securing together the same, each of said sections comprising a flat side wall and a laterally extending circumscribing edge wall at the periphery of the side wall, said edge wall having its outer marginal edge arched inwardly to provide space between adjacent blocks of a building for the reception of reinforcing materials, said flat side wall of each section being pressed inwardly along vertical and horizontal, spaced apart lines to provide flange-engaging grooves; there being an offset at the corners of the section, formed by the meeting of the side wall and edge wall, the offset of one block cooperating with the offset of the adjoining block in creating a flange-engaging groove at the meeting line of the blocks.

9. A sheet metal building block comprising a pair of hollow tray-like sections having the rims of their open sides contiguous; and means carried by the sections for securing together the same, each of said sections having a flat side wall, and a laterally extending circumscribing edge wall at the periphery of the side wall, said edge wall having a flat portion along the zone of connection with the side wall, the outer marginal edge of said edge wall being arched inwardly to provide, with the associated section, a continuous groove around the block, said flat portion of the edge wall having a plurality of openings and upstanding ears for the purpose specified.

EMILE S. GUIGNON, JR.