

Feb. 27, 1934.

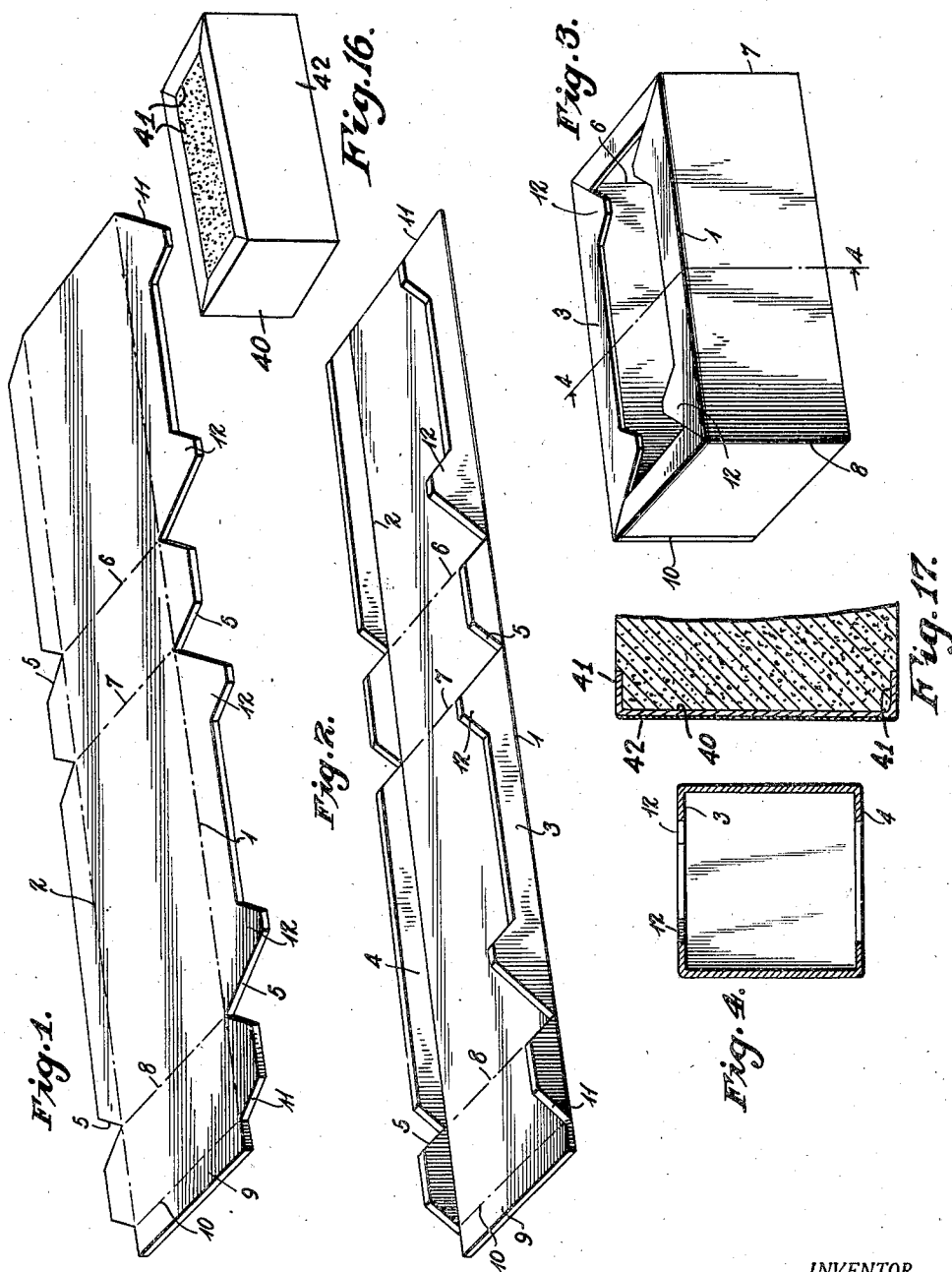
R. W. LOEFFLER

1,949,079

METAL COVERED BRICK

Filed Nov. 23, 1931

5 Sheets-Sheet 1



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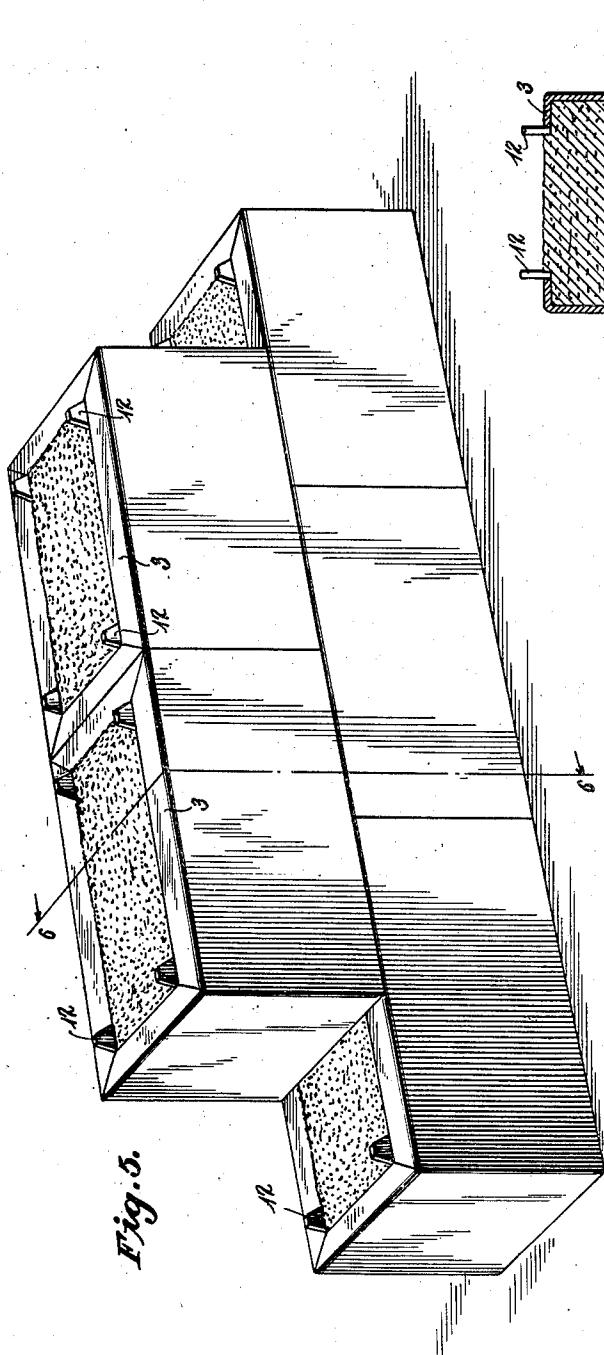
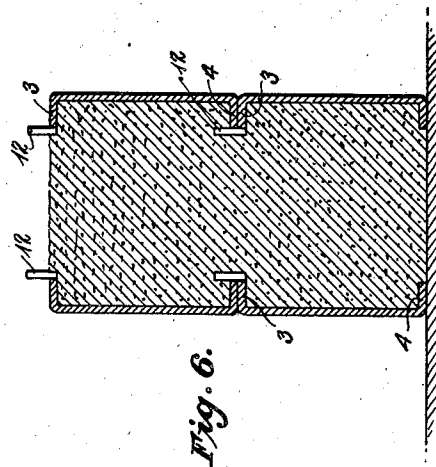
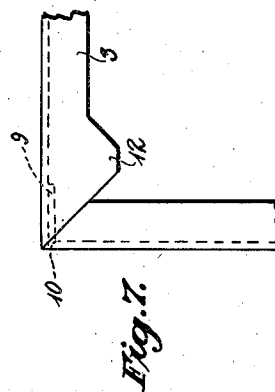
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5 Sheets-Sheet 2



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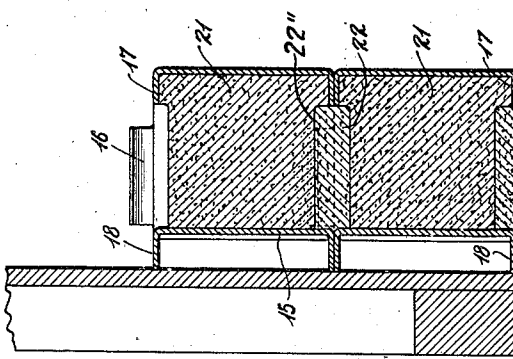


Fig. 9.

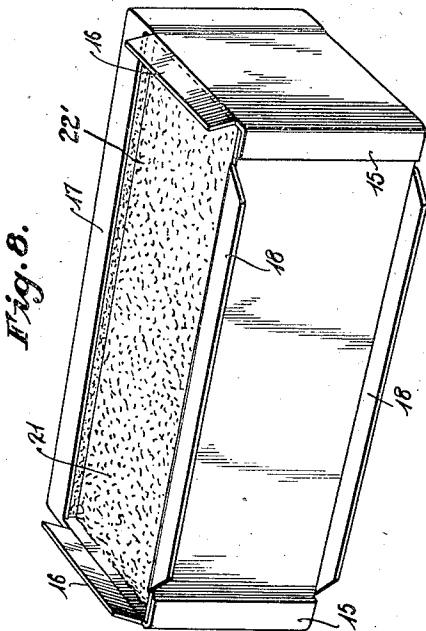
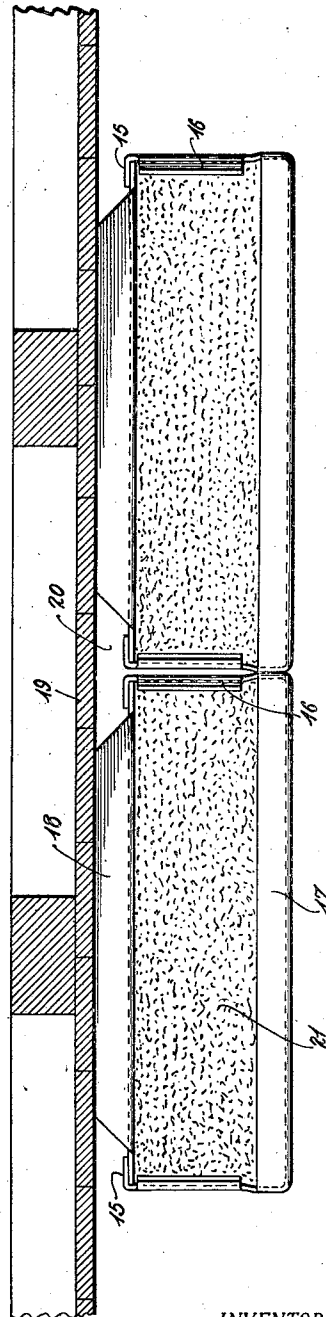


Fig. 8.

Fig. 10.



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Fig. 11.

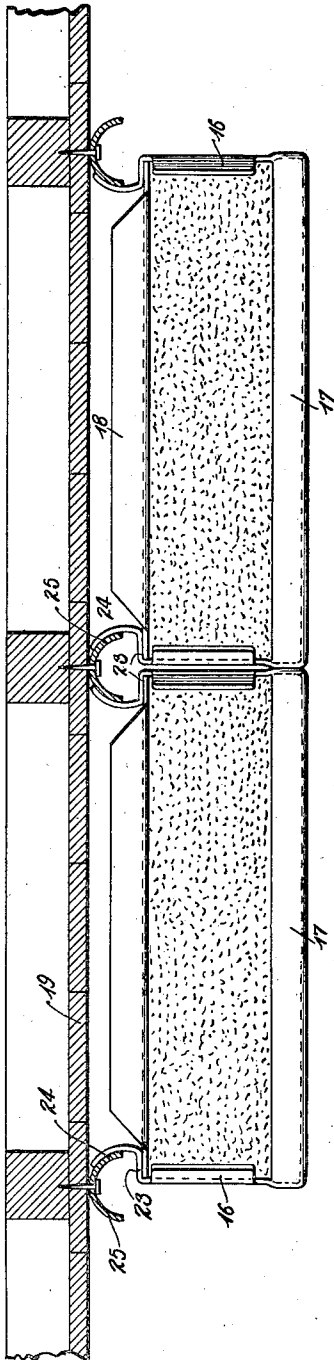
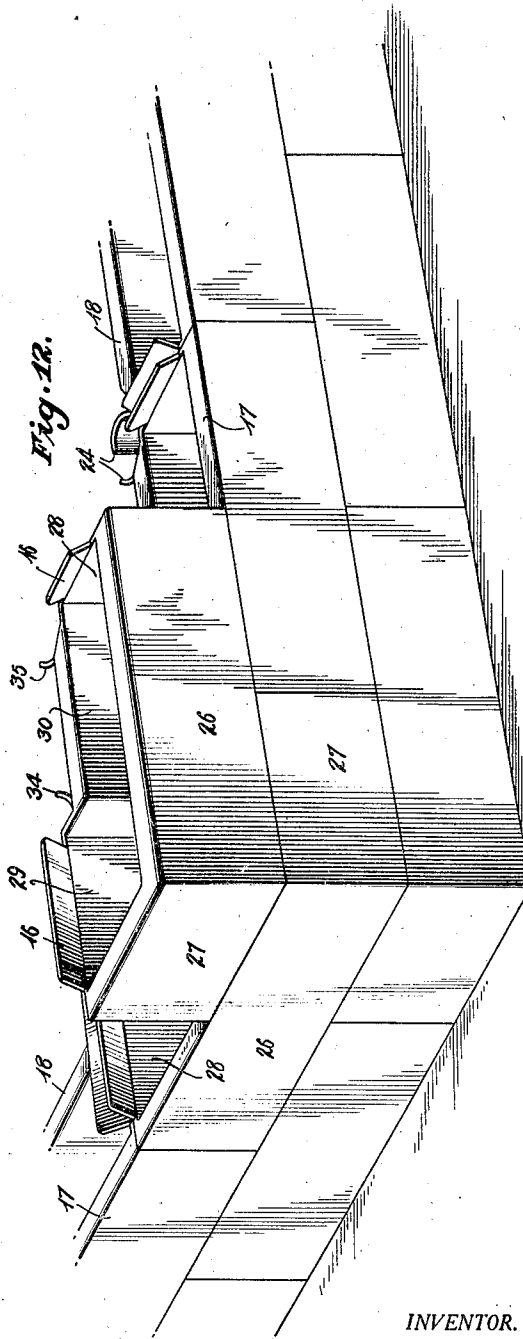


Fig. 12.



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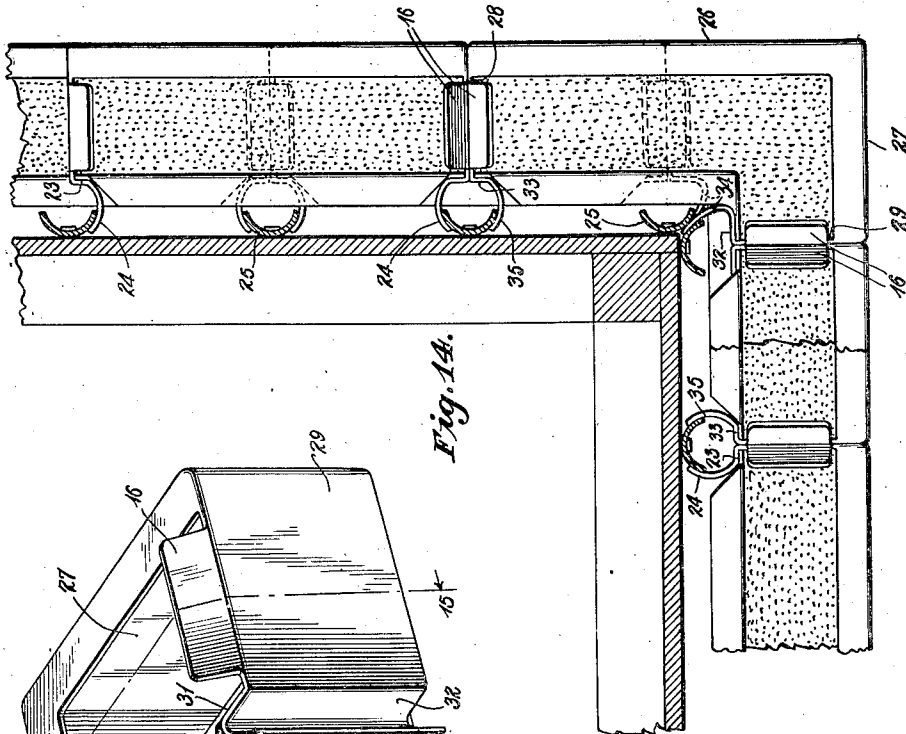


Fig. 14.

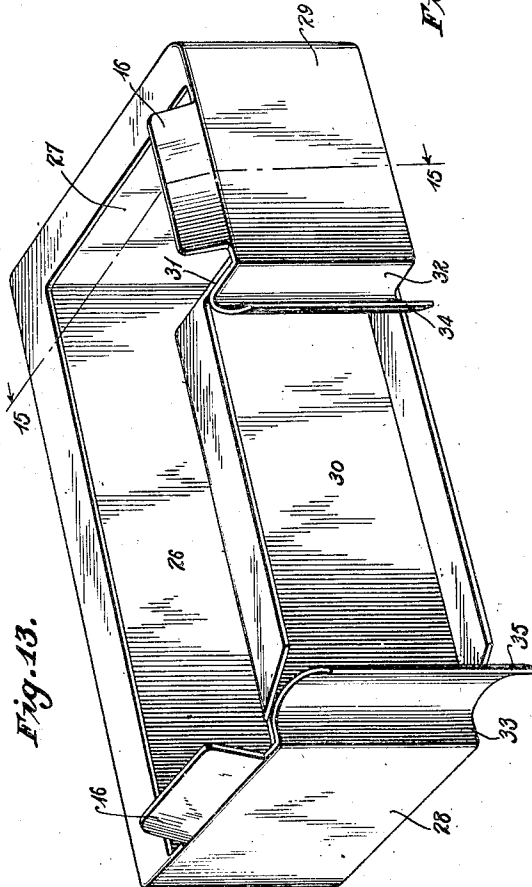
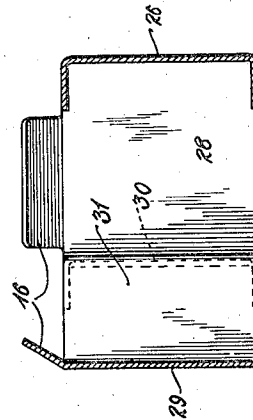


Fig. 13.

Fig. 15.



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UNITED STATES PATENT OFFICE

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METAL COVERED BRICK

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Application November 23, 1931
Serial No. 576,758

11 Claims. (Cl. 72—35)

This invention relates to a brick or building block which may be adapted to give the effect of a tiled wall. The brick or block consists of a hollow metal casing in the form of a ring open at the top and bottom but preferably coated with porcelain. The blocks may be made with or without metal lugs whereby one block is positioned relatively to the other and set up to form a wall and then filled with a binding material such as concrete. The blocks or casings not provided with positioning means are filled at the factory or at any time before laying, and then laid with mortar like bricks. They may be used to form a complete wall or as a facing for a supporting wall. They are particularly desirable for subway stations and the like where the walls are subjected to vibration, being better adapted to withstand such vibration than the usual tile facing used in such places.

When used in combination with a supporting wall of sheathing or the like in the construction referred to as brick veneer, the blocks are provided with projecting flanges which space the blocks from the supporting wall and form an air space between the wall and the bricks or blocks. The flanges preferably extend less than the whole length of the block so as to leave openings connecting the spaces between the flanges.

To increase the sturdiness of the wall the supporting wall and blocks may be provided with interlocking members which secure them together.

In the drawings I have shown several embodiments of my invention by way of example.

Figure 1 is a perspective view of a blank cut or punched, and ready to be folded to form a block.

Figure 2 is a perspective view of the blank partly folded.

Figure 3 is a perspective view of the folded blank with its ends welded together, but with the guides not yet bent out.

Figure 4 is a cross section on the line 4, 4 of Figure 3.

Figure 5 is a perspective view of a portion of a wall. When the metal is coated with vitreous enamel or porcelain, the wall thus formed presents the appearance of a wall faced with porcelain tiles built of the completed blocks and filled with a binding material.

Figure 6 is a cross section on the line 6, 6 of Figure 5.

Figure 7 is a detail view of the joined corner of a block.

Figure 8 is a perspective view of a modified form of block filled with a solid composition.

Figure 9 is a vertical section of a supporting wall and two superposed blocks of the type shown in Figure 8 set against it.

Figure 10 is a plan view of two blocks of the

type shown in Figure 8 set against a supporting wall which is shown in horizontal section.

Figure 11 is a view similar to Figure 10 showing a slightly modified form of block.

Figure 12 is a perspective view of a part partially built corner of a building or the like showing a special L-shaped form of corner block.

Figure 13 is a perspective view of one of the corner blocks shown in Figure 12 from the rear side.

Figure 14 is a plan view of a corner of a building having a supporting wall which is shown in section, the blocks being filled with a binding material.

Figure 15 is a vertical section on the line 15, 15 of Figure 13.

Figure 16 is a perspective view of a completed block comprising a metal casing coated particularly as to the exposed sides and ends with vitreous enamel and filled with concrete or ceramic material, the block being without interengaging lugs so that it is laid like an ordinary brick.

Figure 17 is a fragmentary cross section through the block shown in Figure 16.

Referring first to the embodiment shown in Figures 1 to 7, the cut or punched blank shown in Figure 1 is bent up along the lines 1 and 2 to form flanges 3 and 4. These flanges have notches 5 which permit the blank to be folded along the lines 6, 7 and 8 to form a hollow block or casing open at two opposite sides. One end of the blank has a flap 9 which is bent up along the line 10 to provide a lapping portion to be secured to the adjoining end of the blank by welding or clinching or in any suitable manner, thus forming an unbroken ring. The term ring is used in its broader sense denoting an enclosure or loop not intended to be circular. The hollow block of the invention is preferably open at the top and bottom. The corners 11 are cut off at a 45° angle so as to come into abutting relation when the blank is folded. The flange 3 is provided with guides 12 which may be bent out to form aligning and interlocking means for contiguous blocks to guide them and hold them in the predetermined relation. The hollow blocks or casings after being set up as shown in Figures 5 and 6 are filled with a binding material such as concrete. The casings form the permanent facing of the finished wall on both sides and are preferably coated with porcelain enamel to give the effect of porcelain tiling, with increased resistive properties.

The modified form of block shown in Figures 8 to 10 consists of two sheets of metal, one of which forms two ends and one side of the block and has flaps 15 which are bent over and secured to the other sheet which forms the fourth side of the block. The ends of the block have projections 16 which form interlocking means to hold

the blades in predetermined assembled relation and guides to assist in assembling the blocks. These guides or lugs 16 may be of any preferred construction. They are preferably bent out of alignment with the end walls of the block to increase the bond between superposed casings and hence the filled blocks. The top and bottom edges of the sides of the block are bent laterally to form supporting flanges 18, 18. The flange 18 is bent outwardly in order to space the casings and hence the blocks from the supporting wall of sheathing or the like 19 to form an air space between the two walls in the construction known as brick veneer. The flanges 18 are preferably made shorter than the block so as to form passages 20 connecting the air spaces between the flanges 18.

The block shown in Figure 8 is nearly filled with a solid composition 21 which may be concrete or ceramic or any preferred composition. The outer surfaces of this composition filling lie within the plane of the edges of the block in order to provide spaces 22' into which the guides 16 project, and also to provide pockets 22" to receive a layer of mortar 22 for binding the blocks together.

In the modification shown in Figure 11 the flaps 23 by which the two sheets of which the block or rather the casing is made are joined together are extended to form outwardly curving gripping members 24 adapted to interlock with complementary members 25 secured to the supporting wall 19. The members 25 are preferably trough shaped strips tacked to the supporting wall. These interlocking members secure the block wall to the supporting wall and form a very substantial construction.

Figures 12 to 15 show the special L-shaped form of block adapted to be used at corners to increase the interlocking effect of the blocks at such a location. These L-shaped blocks are formed of two sheets of metal, one of which forms the outer sides 26 and 27 of the L and the two end walls 28 and 29, while the other sheet forms the two inner sides 30 and 31. The ends of the longer sheet have flaps 32 and 33 which overlap and are secured to the ends of the shorter sheet and which are prolonged to form curved gripping members 34 and 35 adapted to engage the trough shaped strips 25.

The block shown in Figures 16 and 17 consists of an outer metal casing 40, substantially like that shown in Figure 3 and previously described, except that it lacks positioning lugs 12 and the inner turned top and bottom edges of the casing at 41 being preferably straight and flat, i. e., in the plane of the top and bottom surfaces of the block. These casings or hollow blocks are preferably coated with vitreous enamel or porcelain indicated at 42 as to the entire outside of the metal casing, i. e., the exposed side and end surfaces thereof, and are filled at the factory or prior to laying, with concrete or other suitable composition. The blocks or bricks are laid after the manner of ordinary brick, and the surface of the wall presents the appearance of a wall faced with porcelain tiles, but it is better adapted to withstand vibration to which it would be subject in the construction of subway stations, railway stations and the like, and it is, as a whole, much more substantial and durable and less subject to fracture and cracks.

All casings are preferably coated with porcelain to form a glossy sanitary finish which is resistant to water, weather, acid, rust and fire.

The casings are annealed and cleaned to remove all dirt and scale and are then coated with porcelain and burned. I prefer to use one coat of vitrified porcelain which, after drying, is burned at 1800° F., and to follow this with two coats of more elastic porcelain successively applied, dried, and burned at 1600° F. The last coat of porcelain can be colored as desired.

It is to be understood that the particular forms of block shown are merely illustrative and that many other modifications may be made without exceeding the scope of this invention.

I have thus described specifically and in detail a wall insert for plastered walls embodying the features of the invention in the preferred form, the description being specific and in detail, in order that the manner of constructing, applying, operating and using the invention may be fully understood, however, the specific terms herein are used descriptively rather than in a limiting sense, the scope of the invention being defined in the claims:

What I claim as new and desire to secure by Letters Patent is:

1. As an article of manufacture a metal covered brick comprising an unbroken ring of sheet metal having the form of a block open at the top and bottom, the same being filled with composition and being flat as to the top and bottom and without projection and capable of being laid like an ordinary brick.

2. As an article of manufacture a covering for concrete blocks comprising an unbroken ring of sheet metal having the form of a hollow casing open at two opposite sides, the wall of said block having projecting portions adapted to serve as guides for contiguous blocks whereby the casings are arranged to form a hollow wall adapted to be filled with concrete, one side of the covering having the longest dimension of the block, being flat so as to form a wall with a continuous flat metal surface when the blocks are assembled.

3. As an article of manufacture a metal covered building block comprising an unbroken ring of sheet metal having the form of a hollow casing open at two opposite sides, the wall of said block having projecting portions adapted to serve as guides for contiguous blocks, a portion of said projecting portions being bent out of alignment with the wall of said block, the casing being filled with composition and having cavities to receive said projecting portions.

4. In a wall construction, a wall composed of casings, each casing being formed of a continuous unbroken ring composed of a single piece of sheet metal and being open at top and bottom and having the edges of the top and bottom turned inwardly to hold the filling, a filling of solid material in said casings, and interlocking members connecting each said block to said supporting wall, said casings providing a continuous receptacle for said filling and the casings being a permanent portion of the wall, the casings having each a flat surface on one side which is opposite to the interlocking members whereby the resulting wall presents an outer flat metallic surface.

5. In a wall construction, a supporting wall, a wall composed of casings, each casing being formed by an unbroken ring of sheet metal and being open at top and bottom, said casings forming a continuous receptacle for filling, a filling of plaster in said blocks, projecting members on said supporting wall, and projecting flanges on said casings adapted to interlock with said pro-

jecting members, said casings forming a permanent portion of the wall.

6. As an article of manufacture a metal covered block comprising a ring of sheet metal having the form of a block open at two opposite sides, and a filler of solid material in said block, the metal being coated with porcelain and the block being flat as to the top and bottom.

7. As an article of manufacture a metal covered brick comprising a ring of sheet metal having the form of a block open at two opposite sides, and a filler of solid material partially filling said block, and fins on the metal adapted to project into the next block where the filler is omitted, the partial filling providing for a mortar interlock.

8. As an article of manufacture a metal covered block comprising an unbroken ring of sheet metal having the form of a block open at two opposite sides, and a filler of solid material in said block, at least one of the outer surfaces of said filler lying within the plane of the adjacent edges of the cover, the metal having a projecting fin to enter the hollow of the next brick when the filler is omitted, the partial omission of the filler providing for a mortar interlock in combination with the said fin.

9. As an article of manufacture a covering for a block of concrete or the like comprising a ring

of sheet metal having the form of a block open at two opposite sides, and a porcelain coating on said metal, the edges of the metal adjacent the openings being turned inwardly to hold the concrete and the porcelain coated surface being flat so that the assembled blocks form a wall having a flat enameled surface.

10. As an article of manufacture, a porcelain coated covering for a brick comprising a ring of sheet metal having the form of the brick, and open at two opposite sides, a portion of the ring adjacent the open sides being turned inwardly to secure the covering to the brick, the sheet metal covering having one outer surface flat without projecting portions so as to form a wall with a flat metal surface, said surface extending the full length of the brick.

11. As an article of manufacture, a covering for a brick comprising a metal ring having a porcelain coating on its outer surface, said covering being open at two opposite sides, a portion of the cover being disposed inwardly and hence adapted to secure the cover to the brick, the sheet metal covering having one outer surface flat without projecting portions so as to form a wall with a flat metal surface, said surface extending the full length of the brick.

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30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145