April 9, 1929. I. HELLERMAN 1,708,696

CONCRETE CONSTRUCTION

Filed Feb. 15, 1924

Fig. 1,

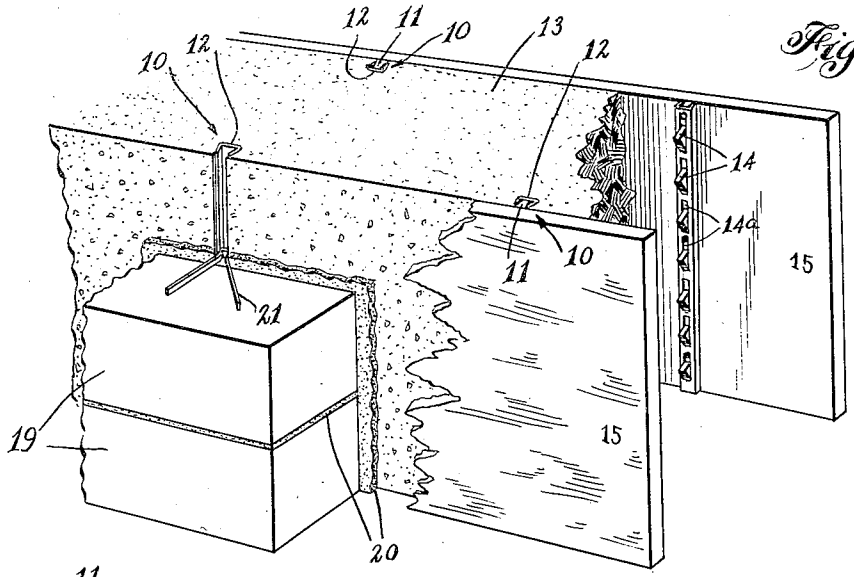


Fig. 2,

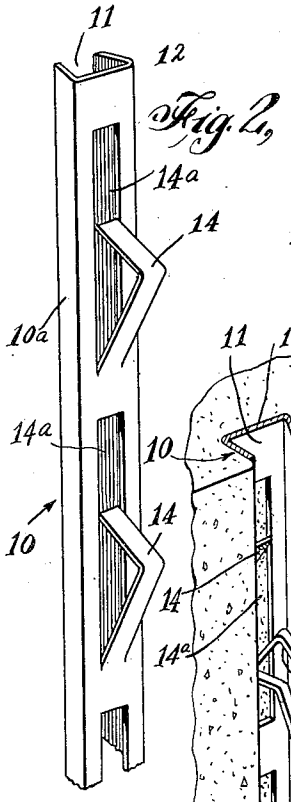
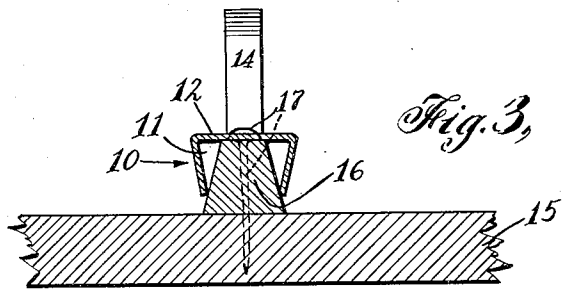


Fig. 3,



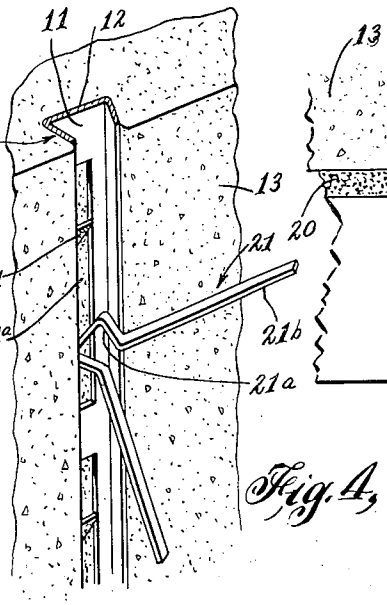


Fig. 4,

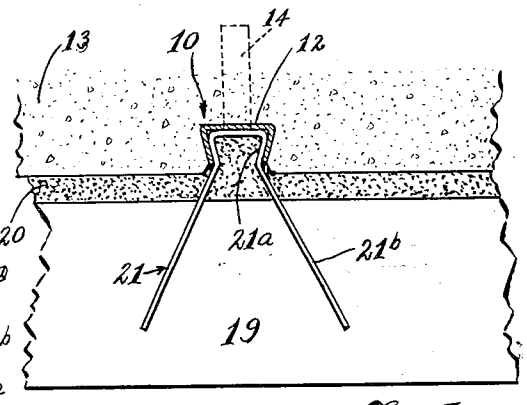


Fig. 5,

INVENTOR
ISAAC HELLERMAN
BY
Morris Rosenstein
ATTORNEY

Patented Apr. 9, 1929. 1,708,696

UNITED STATES PATENT OFFICE.

ISAAC HELLERMAN, OF BROOKLYN, NEW YORK.

CONCRETE CONSTRUCTION.

Application filed February 15, 1924. Serial No. 692,965.

This invention relates to concrete constructions, and more particularly, it is directed to improvements in means for tying brick, tile, or stone veneer to the concrete wall.

An object of the invention is to provide a wall tie of the character described which shall facilitate, to a high degree, the positioning of anchor members for tying in the brick, stone veneer, tile, or the like construction, to the concrete wall, and which shall enable such anchor members to be inserted in position without breaking or otherwise mutilating the concrete wall.

Another object of the invention is to provide a wall tie of the character described which can be easily and quickly attached to the mold and which will be securely retained in the concrete wall after the concrete is poured.

A further object is to provide a wall tie of the character described which shall be efficient in operation and economical in use to a high degree, and yet comparatively cheap to manufacture.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter described and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a perspective view partly in section showing a portion of a concrete wall and mold therefor with tie members, embodying the invention, shown in use;

Fig. 2 is a perspective view of a portion of the wall tie, showing the supplementary retaining means;

Fig. 3 is a partial sectional view, taken transverse to the length of the tie member, which is shown attached to the mold, and before pouring of the concrete;

Fig. 4 is an enlarged perspective view of the tie-member, embedded in the concrete wall, as shown in Fig. 1, illustrating the insertion of the anchor member; and

Fig. 5 is a partial sectional view taken transverse the length of the embedded anchoring conduit, showing the anchor member and the veneer facing attached to the concrete body.

Referring in detail to the drawing, my invention is there shown in connection with a mold 15 into which the concrete is poured so as to provide a concrete wall 13 and to which is bonded a veneer facing such as brick 19 or tile or the like.

The wall tie, embodied in my invention and illustrated in the drawing, as best shown in Fig. 2, will be seen to comprise a channel member 10, made of metal or other suitable material, having the channel opening 11 thereof tapered, the side walls 10^a of the channel member tapering towards each other away from the rear attaching or supporting wall 12, whereby the channel member is secured to the concrete wall. For providing additional and efficient securing means for positively anchoring the channel member in the concrete wall, I further provide anchoring arms 14, preferably by punching the wall 12, each arm being stamped into loop form of any desired shape as in the drawing. However they may be made circular in shape, or of any other triangular or irregular shape.

In the stamping up of the anchoring arms 14 from the rear wall 12, openings 14^a are provided in the rear wall 12 of the channel member which serve the purpose hereinafter described.

In the practical use of my invention, a channel member such as described is first secured to the concrete mold 15, usually of wood. To best do this, I first insert into the channel opening 11 a strip or lath 16, preferably of tapered cross-section, tapering in a direction opposite to the taper of the channel opening, into the channel opening 11. Due to the structural form of the channel member 10, the edges of the side wall 10^a thereof will grip the strip 16 and will firmly secure said member 10 in place. I then secure the channel member to the mold 15 by means of nails 17 passing through the openings 14^a, the lath 16, and the mold 15 (see Fig. 3). The concrete may then be poured into the mold, embedding the channel member in the concrete wall, the cementitious material filling the loops formed by the anchor arms 14, but not entering the channel opening 11 which is closed by the lath 16. After the concrete is hardened, the mold 15 and laths 16 are removed, leaving the channels embedded, as shown best in Fig. 4 with the channel opening ready to receive the anchor members, such as 21. For tying in the veneer facing, brick, tile or the like, 20 to the concrete wall, the brick or tile 19 is laid

in the usual manner with the cement binding material such as mortar 20 between the concrete wall and each layer of brick or tile as shown in Figs. 1 and 5. The anchor members 21 have a tapered head portion 21ª shaped to conform and interlock with the channel opening 11, as shown in Figs. 1 and 5, for quick and easy insertion in the channel, as best seen in Fig. 4, the anchor member 21 being first inserted, with the head 21ª sidewise, into the channel opening, and then turned into position to lock into the channel as will be readily understood. Extending from the head member 21ª are leg members 21ᵇ, adapted to rest on the brick or tile, as will be readily understood. The length and spread of these members may, of course, be modified so as to best adapt the anchor member for various thicknesses and types of veneer facing. Thus, where tile is employed, a shorter anchor piece will be needed, while a longer one would be used where brick is employed.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

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

1. In combination with a cementitious body, a tie member comprising a metallic member having an opening lengthwise thereof and shaped to be retained when embedded in a cementitious body with the said opening adjacent the outside surface thereof, said member having punched and bent portions to form supplementary anchoring means, a looped anchor member having a bight portion shaped to enter the said opening and spring leg portions adjustably interlocking along the length of the tie member, said tie member and supporting members adapted to anchor for binding veneer facing sections to said body.

2. In a concrete construction, in combination with a wall tie member having a tapered channel opening, a looped anchor member having a bight portion adapted to engage in said channel opening, and diverging spring leg portions extending from said head member for adjustably interlocking along the tie member.

3. A step in the art of molding concrete with a channel wall tie member embedded therein consisting in securing the tie member to a strip so as to cover a perforated portion of said member and fastening said strip and tie member in place on a wall of a mold.

In testimony whereof I affix my signature.

ISAAC HELLERMAN.