Aug. 20, 1929. H. H. LAMPERT 1,725,200

WALL TIE

Filed Nov. 5, 1927

Fig. 1.

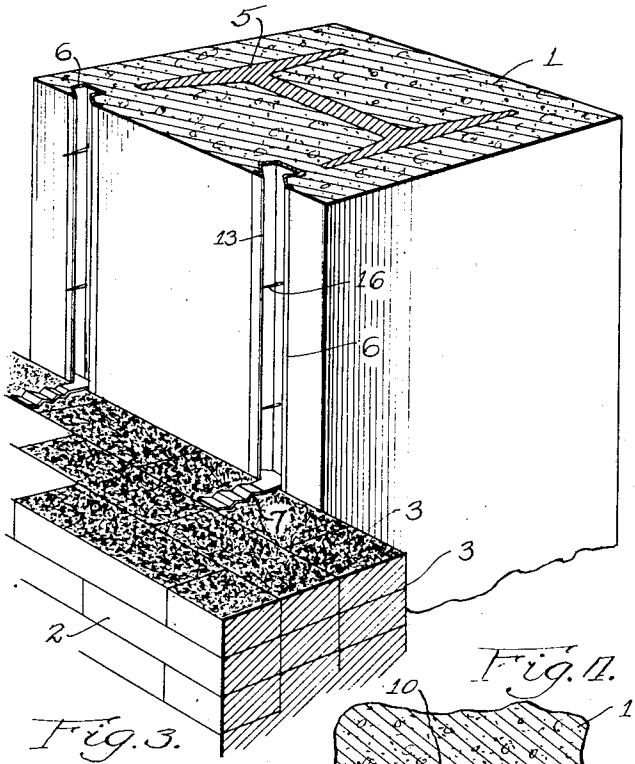


Fig. 2.

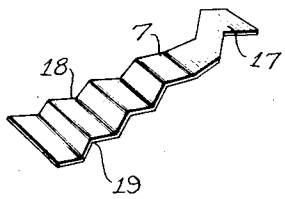


Fig. 4.

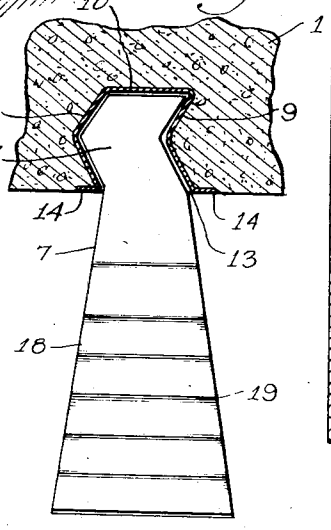


Fig. 3.

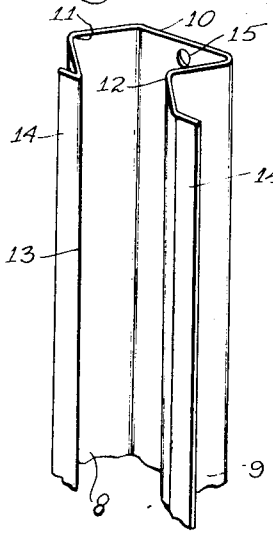
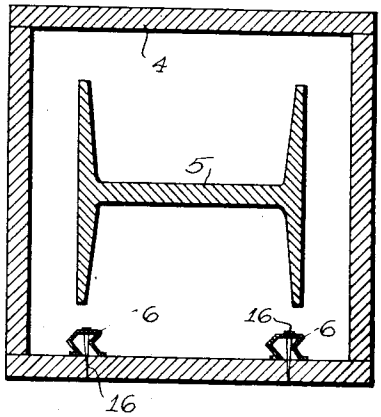


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY H. LAMPERT, OF CHICAGO, ILLINOIS.

WALL TIE.

Application filed November 5, 1927. Serial No. 231,296.

The main objects of this invention are to provide improved means for securing together two adjacent pieces of masonry; to provide an improved form of wall tie for securing a facing material to a main wall structure; to provide a wall tie having an improved form of key adapted to have one end thereof embedded in one of the masonry units; to provide an improved form of channel for adjustably securing the opposite end of said key to the other unit; and to provide an improved form of sheet metal wall tie which is particularly adapted for use in securing a brick or stone facing to a concrete wall.

An illustrative embodiment of this invention is shown in the accompanying drawings, wherein:—

Figure 1 is a perspective, partly in section, of a building construction to which the improved wall ties are applied.

Fig. 2 is a perspective of one of the keys.

Fig. 3 is a fragmentary perspective of one of the channel members.

Fig. 4 is a fragmentary horizontal section of one of the columns, showing one of the ties.

Fig. 5 is a horizontal section of a mold, showing two of the channel members secured to the front of the mold before the concrete is poured.

The improved wall ties, to which this invention is applied, are adapted for use in securing a masonry facing to many different types of walls. In the specific construction herein shown, the wall tie is used for securing a brick veneer or facing to a concrete column. The tie includes an improved form of key having one end anchored in the facing unit and having its other end interlocked with an improved channel formed in the adjacent structural unit.

In the form shown, the improved tie is used for securing an inner wall 1 to an outer facing of bricks 2, bonded with mortar 3.

The wall 1 comprises a plurality of vertical columns of concrete poured into temporary wooden molds 4 built around structural shapes 5.

The concrete columns usually extend from the ground to the top of the building and the brick facings are generally spaced a fraction of an inch from the adjacent columns.

In the construction illustrated, the improved wall tie comprises a channel member 6, which is adapted to be embedded in the concrete, and a plurality of adjustable keys 7. The channels 6 and keys 7 are preferably sheet metal stampings.

The channel member 6 comprises a pair of side walls 8 and 9 and a rear wall 10. The side walls are bent to a zig-zag shape and are arranged to provide a depression 11 at one side of the channel and a complementary ridge 12 on the opposite side. The walls 8 and 9 are arranged so that adjacent portions thereof are substantially parallel, whereby the channel has a uniform width throughout its depth.

Located between the outer ends of the walls 8 and 9, is an opening 13 extending longitudinally of the channel member for receiving the keys 7.

The outer extremities of the walls 8 and 9 are bent outwardly to form flanges 14 which are adapted to bear against the front wall of the mold 4 during the pouring of the concrete. When the column is finished, the outer faces of the flanges 14 are flush with the front face of the column.

Formed in the rear wall 10 of the channel member, is a plurality of apertures 15 for receiving nails 16 or other suitable fastening means which are driven through the opening 13 for securing the channel to the front wall of the mold 4. These nails remain in the channel after the mold has been stripped from the column.

In the construction illustrated, each of the keys 7 comprises a metal strap having a head 17 and a shank 18. The head 17 substantially conforms to the cross section of the channel member, so that it is secured against withdrawal therefrom except when the key is tilted on edge.

The shank 18 is flared so as to provide a broad bearing which is adapted to lie between two layers of brick or stone. The shank is preferably corrugated to form anchoring portions 19, adapted to be embedded in the mortar 3.

In operation, the channel members 6 are arranged on end and nailed to the front walls of the molds. After the concrete has been poured and has properly set, the molds are stripped from the columns and the vertical channel members left embedded in the concrete, with the openings 13 located in the front face of the wall. The brick or stone facing is then built in front of the columns 1. At certain vertical intervals, the keys 7 are inserted into the channels and their shanks

18 are embedded in the mortar between adjacent layers of brick. The tie heads 17 are slidable in the channel members so as to permit the shanks 18 to be inserted at any level in the outer facing.

Although but one specific embodiment of this invention has been herein shown and described, it will be understood that certain details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. A building construction comprising a pair of adjacent masonry units, one of said units having a channel therein opening toward the other unit and being zig-zag in cross section, said channel being of substantially constant cross-section whereby opposite sides thereof are parallel, and a key having one end seated in said channel and substantially conforming to its cross-section and having its other end anchored in said other unit.

2. A wall tie comprising a channel member adapted to be secured to a structural unit, said member being zig-zag in cross-section and having an opening in one side extending longitudinally thereof, said channel being of substantially constant cross-section whereby opposite sides thereof are parallel, and a key having one end slidably supported in said channel and substantially conforming to its cross section.

3. A wall tie comprising a channel member having an opening in one side extending longitudinally thereof one wall of said channel member having a depression therein, a complementary ridge on the opposite wall of said member, said member being substantially uniform in width throughout its depth, and a key extending through said opening and having one end thereof arranged in interfitting engagement with said channel.

Signed at Chicago this 31st day of Oct. 1927.

HENRY H. LAMPERT.