

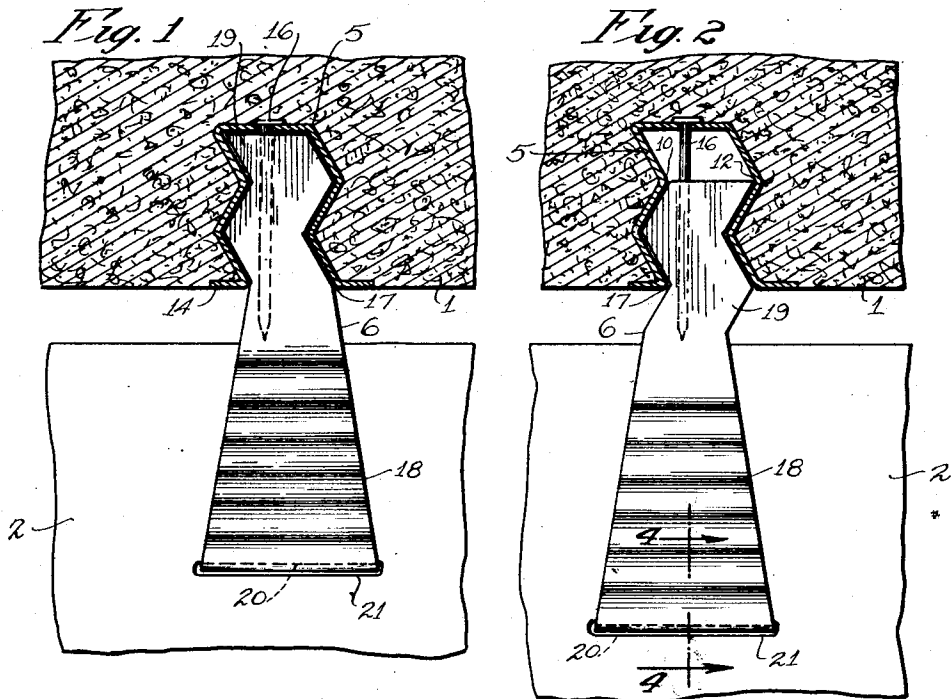
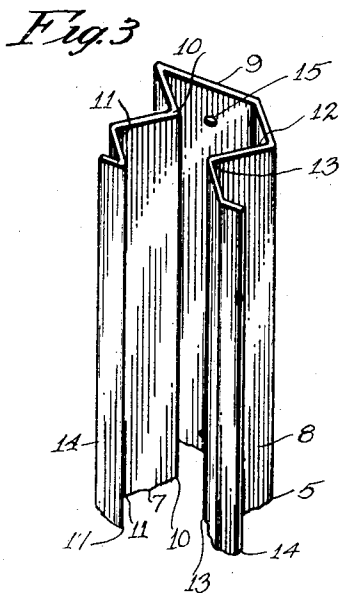
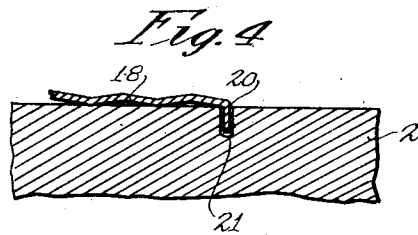
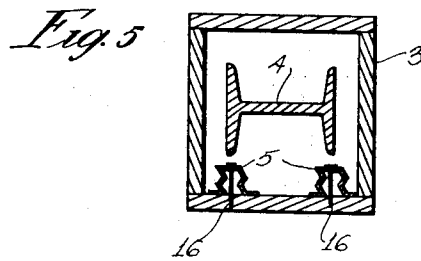
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WALL TIE

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WALL TIE.

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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; to provide a device of this kind wherein the key may be reversed in the channel; and to provide an improved form of sheet metal wall tie which is particularly adapted for use in securing a stone facing to a concrete wall.

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

Figure 1 is a horizontal section of part of a building construction including an improved wall tie.

Fig. 2 is a similar view but showing the key in an inverted position.

Fig. 3 is a fragmentary perspective of the channel.

Fig. 4 is an enlarged section taken on the line 4—4 of Fig. 2.

Fig. 5 is a horizontal section of a column mold, showing two of the channel members secured to the front section 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 stone 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 stone 2 bonded with mortar.

The wall 1 comprises a plurality of vertical columns of concrete poured into temporary wooden molds 3 built around structural shapes 4.

The concrete columns usually extend from the ground to the top of the building and the stone facings are generally spaced a short distance from the adjacent columns.

In the construction illustrated, the improved wall tie comprises a channel member

5, which is adapted to be embedded in the concrete, and a plurality of adjustable keys 6. The channels 5 and keys 6 are preferably sheet metal stampings.

The channel member 5 comprises a pair of side walls 7 and 8 and a rear wall 9. The side walls are corrugated and are arranged to provide a ridge 10 and depression 11 at one side of the channel and a complementary depression 12 and ridge 13 on the opposite side. The walls 7 and 8 are arranged so that adjacent portions thereof are substantially parallel, whereby the channel has a uniform width throughout its depth.

The outer extremities of the side walls 7 and 8 are bent outwardly to form flanges 14 which are adapted to bear against the front section of the mold 3 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 9 of the channel member, is a plurality of apertures 15 for receiving nails 16 which are driven through the channel for securing it to the front section of the mold. These nails remain in the channel after the mold has been stripped from the column, as shown in Figs. 1 and 2.

Located between the flanges 14, is an opening 17 extending longitudinally of the channel member for receiving the keys 6.

In the form shown, each of the keys 6 comprises a metal strap having a shank 18 and a head 19.

The shank 18 is corrugated and also flared so as to provide a broad bearing which is adapted to lie between two layers of stone. The outer end of the shank 18 is bent downwardly at substantially right angles thereto to provide a shoulder 20 which is adapted to engage a recess 21 chipped in the upper face of the stone upon which the key is supported.

The head 19 of the key 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.

With this improved form and arrangement of parts, the key 6 may be reversed in the channel, as shown in Fig. 2. When the key is reversed, the inner extremity of the head 19 extends only to the ridge 10 and depression 12 instead of to the rear wall 9.

In operation, the channel members 5 are arranged on end and nailed to the front sections 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 17 located in the front face of the wall. The stone facing is then built in front of the column 1. At certain vertical intervals, the keys 6 are inserted into the channels and their shanks 18 embedded in the stone. The tie heads 19 are slidable in the channel members so as to permit the shanks 18 to be inserted at any level in the outer facing.

In the event that the shoulders 20 have been bent upwardly, instead of downwardly, on some of the keys, these keys may be reversed in the channels as shown in Fig. 2.

This improved construction also permits the keys to be attached to the channels when the channel members have been placed in an inverted position.

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 masonry units, one of said units having a channel therein opening toward the other unit and being corrugated in cross section to provide a ridge and a depression in one wall thereof and a complementary depression and ridge in the opposite wall thereof, 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, said key being reversible in said channel.

2. A wall tie comprising a channel member corrugated in cross section to provide a ridge and a depression in one wall thereof and a complementary depression and ridge in the opposite wall thereof, and a key having one end seated in said channel and reversible therein when partly withdrawn therefrom.

3. A wall tie comprising a channel member having a longitudinally extending opening in one side thereof, said channel being corrugated in cross section to provide a ridge and a depression in one wall thereof and a complementary depression and ridge in the opposite wall thereof, and a key slidable in said opening, one end of said key being located in said channel and substantially conforming to its

cross section, said key being reversible when partly withdrawn from said channel.

4. A wall tie comprising a channel member corrugated in cross section to provide a ridge and a depression in one wall thereof and a complementary depression and ridge in the opposite wall thereof, said channel being uniform in width throughout its depth, and a key having one end seated in said channel, said key conforming to the cross-section of said channel so as to be reversible therein when partly withdrawn therefrom.

5. A wall tie comprising a channel member corrugated in cross section, to provide a ridge and a depression in one wall thereof and a complementary depression and ridge in the opposite wall thereof, and a key having one end seated in said channel and conforming to its cross section, said key being reversible when partly withdrawn from said channel.

6. A wall tie comprising a channel member adapted to be secured to a structural unit, said member being corrugated in cross section to provide a ridge and a depression in one wall thereof and a complementary depression and ridge in the opposite wall thereof, said channel member having a longitudinally extending opening in one side thereof, a key slidable in said opening, one end of said key being located in said channel and substantially conforming to its cross section, said key being reversible when partly withdrawn from said channel, and a shoulder adjacent the other end of said key adapted to be embedded in another unit.

7. A wall tie comprising a sheet metal channel member adapted to be secured to a structural unit, said member being corrugated in cross section to provide a ridge and a depression in one wall thereof and a complementary depression and ridge in the opposite wall thereof, said channel member having a longitudinally extending opening in one side thereof, said channel being substantially uniform in width throughout its depth, a sheet metal key slidable in said opening, one end of said key being located in said channel and substantially conforming to its cross section, said key being reversible when partly withdrawn from said channel, and a shoulder adjacent the other end of said key adapted to be embedded in another unit.

Signed at Chicago this 11th day of April, 1928.

HENRY H. LAMPERT.