June 25, 1968 W. B. MOODY 3,389,525

PREFABRICATED WALL NAIL-TIE ASSEMBLY

Filed Feb. 23, 1967

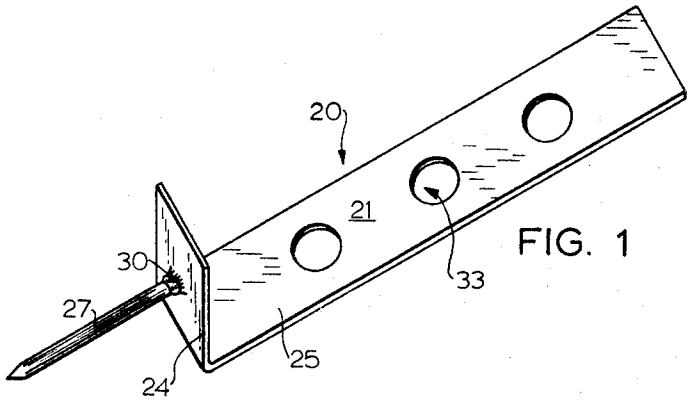


FIG. 1

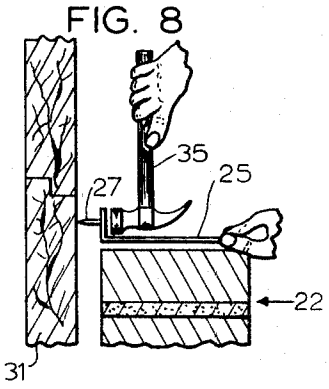


FIG. 8

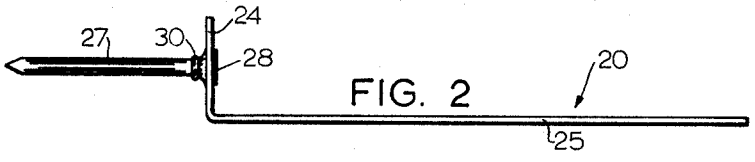


FIG. 2

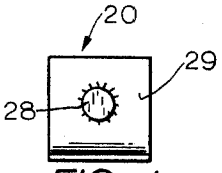


FIG. 4

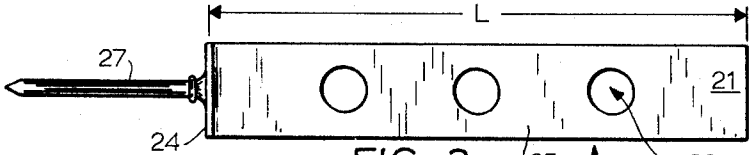


FIG. 3

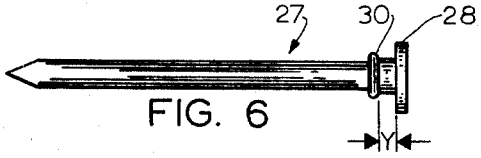


FIG. 6

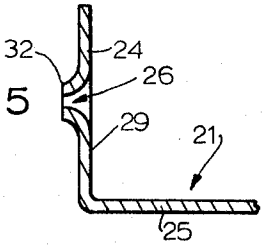


FIG. 5

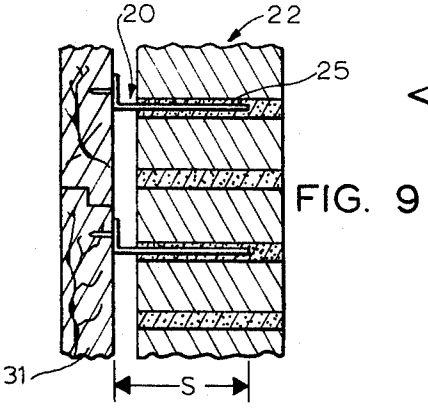


FIG. 9

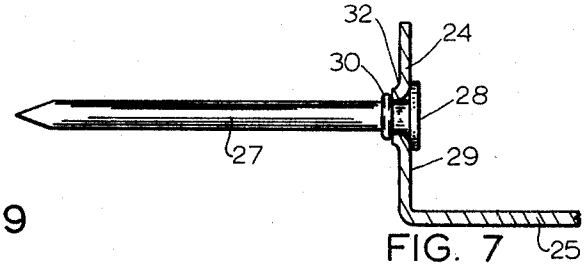


FIG. 7

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PREFABRICATED WALL NAIL-TIE ASSEMBLY

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Continuation-in-part of application Ser. No. 407,189, Oct. 28, 1964. This application Feb. 23, 1967, Ser. No. 617,992

2 Claims. (Cl. 52—714)

ABSTRACT OF THE DISCLOSURE

A wall tie for a brick veneer wall is preformed to the final shape required and comes provided with an integral and properly positioned nail to eliminate the usual tie bending and separate nail locating and positioning.

Related application

This application is a continuation-in-part of application Ser. No. 407,189 entitled "Prefabricated Wall Tie Assembly" filed Oct. 28, 1964, which application is being abandoned upon the filing of this application.

Background of the invention

(1) *Field of the invention.*—This invention is directed to construction devices and more particularly to wall ties which are used to tie brick veneer walls to adjacent sheathing in new homes, new industrial building constructions and the like.

(2) *Description of the prior art.*—Heretofore, a series of time-consuming and expensive steps have been required for a brick mason to secure the conventional wall tie to the sheathing. Conventional wall ties are formed from flat strips of sheet metal having holes, corrugations or similar structure which allows mortar to become embedded therein. Conventional ties have a hole punched in one end in which the mason is required to locate and then position the nail for hammering. The nail is started while being held and is then hammered into the sheathing. After securing the wall tie to the sheathing, the mason is required to place a bend in the wall tie adjacent the nail and the remainder of the wall tie is bent down onto the brick surface where mortar is placed beneath and thereupon and allowed to harden.

The above-described conventional wall tie and this method of securing the wall tie to the sheathing have a number of disadvantages. The nail has to be found and picked up separately by the mason from a nail bag or the like, located in the hole, positioned correctly and held during starting of the nail into the sheathing. Substantial time is required to pick up the nail, assemble the nail and tie and position the nail correctly while holding both the nail and the tie. A possibility of injury to the mason is encountered in this hammering process since the mason's fingers are near the nail head during hammering. The tie must be bent into place upon the brick after the nail has been hammered in place and this also consumes time.

Considerable improvement upon the conventional brick tie is provided by the tie disclosed in Patent 2,262,130. The brick tie of this patent provides a preassembled wall tie with an associated nail. The nail is placed through a provided hole during manufacture of the tie and wall tie material is bent over the nail to hold it in place. The tie of the cited patent is somewhat helpful in lessening the possibility of injury to the mason. However, it has been discovered through use that since the nail is assembled loose within the tie nail hole, the mason still has to both position and hold the nail while starting it. Failure to hold the nail in the cited patent tie assembly oftentimes causes the nail to become bent and not usable. In the cited patented tie a bending process is also still necessary after the wall tie has been secured to the sheathing. Another disadvantage resides in the fact that hammering must inherently be applied to the surface of a bent metal portion instead of to the nail head where hammer blows are more effective.

Summary of the invention

According to the invention a wall tie is preformed to the final shape required for joining a mortar joint to the sheathing and which eliminates the need for on-the-job bending as required in all prior art wall ties. The wall tie of the invention when preformed is also punched to receive a double-headed nail such that when the nail is cold-set it becomes rigidly and integrally fixed to the upturned end portion of the tie in a correct position for nailing and with the nail head exposed for direct application of hammer blows.

The primary object of this invention is to provide a prefabricated brick veneer wall tie unit which includes an integral nail that is properly positioned and positioned such that its head can be struck directly by the hammer.

An object is also to provide a prefabricated brick veneer wall tie unit which is shaped during manufacture to the shape required for installation so as to eliminate any need for bending the tie on the job.

An object is also to provide a prefabricated brick veneer wall tie unit which requires less material to construct thereby establishing a less expensive wall tie.

Another object is to provide a prefabricated wall tie unit which is extremely simple in construction, strong, durable, reliable and efficient in use, and which may be formed from sheet metal and nail rod stock.

A further object is to provide a prefabricated brick veneer wall tie unit which is so designed that the mason does not have to hold the nail and thus has a minimum of exposure to injury while securing the tie unit to the wall.

Description of the drawings

FIGURE 1 is a perspective view of a wall tie embodying the invention;

FIGURE 2 is a side elevational view of the wall tie unit;

FIGURE 3 is a plan view of the wall tie unit;

FIGURE 4 is an end elevational view of the wall tie unit looking towards the nail head;

FIGURE 5 is a sectional view of the end portion of the wall tie unit after punching but prior to installation of the nail;

FIGURE 6 is a side view of the double-head nail used with the wall tie unit;

FIGURE 7 is a sectional view like FIGURE 5 but with the nail installed;

FIGURE 8 is a fragmentary view through a typical brick veneer wall and sheathing and showing the wall tie unit being positioned for nailing; and

FIGURE 9 is like FIGURE 8 with the wall tie unit shown installed.

Description of the preferred embodiment

Referring to the drawings in detail, a prefabricated brick veneer wall tie unit **20** is shown in its preferred embodiment. Wall tie **20** is shown being formed of a rectangular shaped, bendable metal strip **21** of a suitable gauge metal, for example, a .026 gauge metal. The base **25** of strip **21** is formed to a predetermined length L equal, by conventional masonry practice, to the length S of the space between the sheathing **31** and a point about one-half inch in from the outside face of the brickwork. Wall tie unit **20** is so designed to function as a means of joining sheathing **31** and a brick veneer wall construction **22**.

The metal strip forming the tie of the invention is bent during manufacture at a right angle to form the nail support and hammering end member 24. End member 24 in turn is punched to provide a hole 26 and a double-headed nail member 27 is thereafter forced through hole 26 so as to reside in end member 24 as best seen in FIGURE 7 and with head 28 of nail 27 flush with the inner face 29 of the end member 24. Nail 27 is machine-formed from nail wire and is then assembled with the separately machine-stamped, bent and punched strip 21 to form the composite wall tie unit 20. It has been found particularly desirable to form nail 27 with both a hammering head 28 and a second "head" or flange 30. The spacing Y between the two heads receives the flange 32. During fabrication the nail 27 is forced into hole 26 in a snug fit and in an immediately following operation the flange 32 is pressed or "cold-set" so as to rigidly secure nail 27 to the end member 24 and maintain it in a correct position for hammering.

The base portion 25 is illustrated in the drawings as having holes 33 stamped along its length. Holes 33 are effective as a means for embedding the tie 20 in the mortor and providing support against strain between the veneer wall 22 and the sheathing 31. Substantial anchorage in the mortar is desired to avoid the withdrawal of the tie 20 once embedded therein. Other configurations may be employed, e.g., grooves, slots or corrugations, and punched or formed in the base member 25.

Referring to FIGURES 8 and 9, tie unit 20 may be used in connection with wood sheathing 31 and brick veneer wall 22. The bricks are set by mortar in the usual well-known manner, and the veneer wall 22 and sheathing 31 are joined by the prefabricated wall tie units 20 constructed in accordance with the invention. The installation, positoning and fastening of the prefabricated brick veneer wall tie units of the invention can be executed rapidly and with limited possibility of injury to a workman. As best seen in FIGURE 8, the workman can hold the tie unit by the base 25 and does not have to hold or position the nail nor does he have to assemble the nail and tie. The workman only has to pick up a single unit which comprises the entire tie and can hold the end of the tie far removed from the nail head and yet apply blows directly to the nail head 28 during hamming as illustrated by the hammer 35. During hammering, the workman knows the nail will be steady and will hold a correct position since the nail is integral with the tie.

From the foregoing description, it will be observed that I have devised a simple and inexpensive prefabricated wall tie unit that can be used in connection with almost any type of brick veneer wall. While a specific embodiment has been shown and described, it is obvious that the specific form may vary without departing from the scope and spirit of the invention.

What I claim is:

1. A prefabricated wall tie for tying a brick veneer wall to sheathing comprising, in combination: a flat metal strip of predetermined width and divided lengthwise into an elongated base portion and a short end portion pre-formed at a right angle to the base portion in a manner suited to immediate on the job use without further bending, both said portions being formed from a single thickness of said strip, said base portion being of sufficient length and having a configuration for receiving cement and bonding a major portion of said base portion to said wall, said end portion having a flat outside surface adapted to rest against said sheathing and a flat inside hammering surface opposite thereto; a nail having an elongated body portion pointed at one end, a head formed on the opposite end thereof and a flange surrounding said body portion and spaced from said head and toward said pointed end a distance slightly in excess of said strip thickness, said nail being centrally mounted in said end portion with said pointed body portion positioned so as to extend perpendicular to said end portion and oppositely from and parallel to the plane of said base portion in a manner suited to immediate on the job use without further orientation of said nail with respect to either said portions, said head residing substantially flush with said end portion inside surface and being adapted to receive hammer flows directly thereon without hammering said end portion and said end portion being "set" between said flange and head to rigidly secure said nail to said end portion such that said nail retains its orientation and can be positioned on the job by holding said base portion.

2. A wall tie as claimed in claim 1 wherein said configuration constitutes said base portion having a plurality of spaced openings for receiving said cement.

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