Aug. 3, 1937. D. A. WALLACE 2,088,625

BUILDING BRICK

Filed Dec. 13, 1935

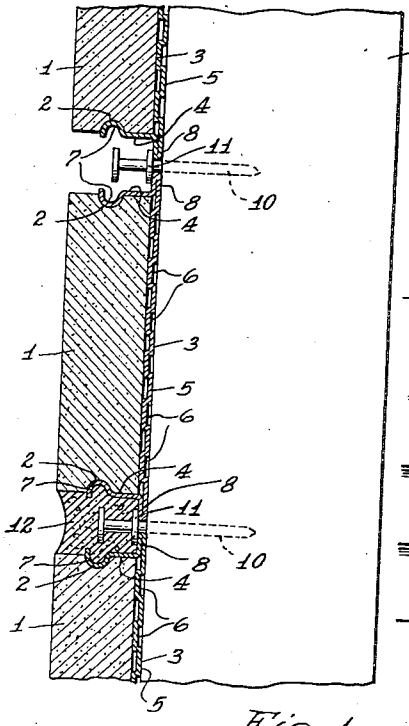


Fig. 1.

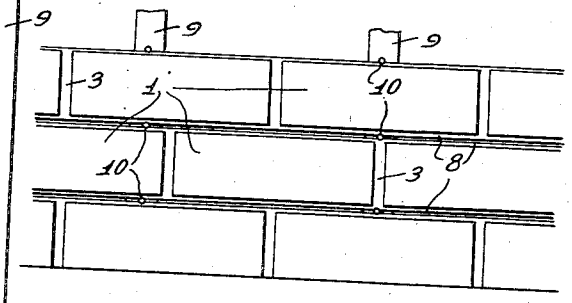


Fig. 2.

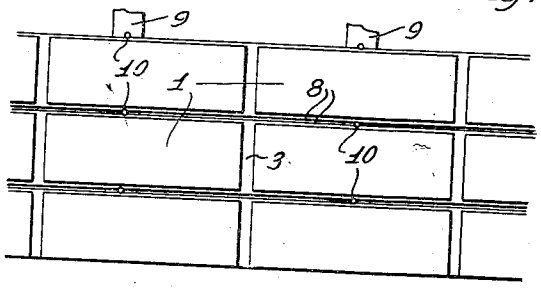


Fig. 3.

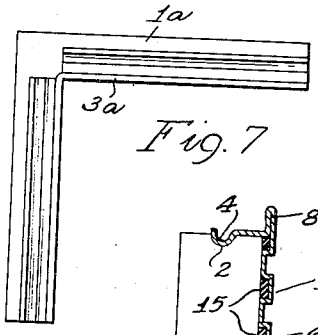


Fig. 7

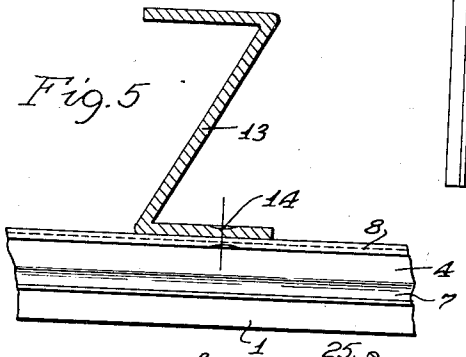


Fig. 5

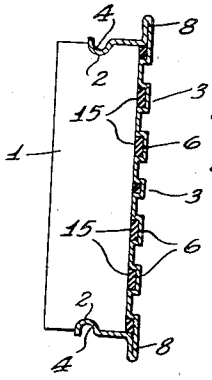


Fig. 6

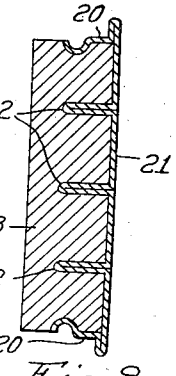


Fig. 8

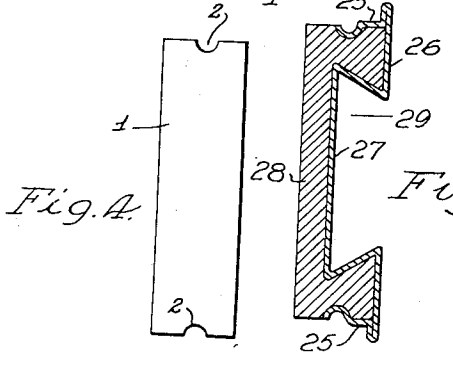


Fig. 4.

Fig. 9

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BUILDING BRICK

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10 Claims. (Cl. 72—19)

The present invention pertains to bricks for building purposes.

The primary object of the present invention is to provide means for supporting a plurality of bricks in strip form so that a plurality of bricks may be placed in a wall at one time. The means for supporting the bricks comprises a metal channel in which a plurality of bricks are retained and the metal strips may be secured directly to vertical studs when the units are assembled in a building. Accordingly, the formation of a brick wall is materially simplified inasmuch as the necessity for skilled labor for laying bricks is eliminated and the necessity for providing a conventional foundation for the bricks is not necessary. The matter of avoiding the necessity for providing a foundation to support the brick wall is especially important in connection with applying brick veneering to an existing frame building, inasmuch as the present invention provides for the attachment of the bricks directly to the existing walls in such cases.

Another object of the invention is to provide for the construction of a brick wall in combination with a metal frame building. To this end the bricks are supported by metal bases and the bases may be spot or arc welded to the vertical metallic studs of the building.

Another object of the invention is to provide means for forming a wall of bricks wherein the bricks are properly spaced, in a manner to provide the usual appearance, so that the mortar, for filling the spaces or voids between the bricks, may be applied after the wall is completely assembled. The mortar thus has no effect on the relative positioning of the bricks nor in holding them in position after they have been placed in the wall and accordingly the completed wall is not subject to sagging etc., as is the case with ordinary brick walls.

Another important object of the invention is to provide means for bonding bricks to metal reinforcing and supporting strips so as to eliminate the possibility of the bricks being separated from the strips during handling transportation or while being assembled in the wall. This is accomplished by providing strips, which are in the form of a channel, with lengthwise extending reinforcing ribs which are both imbedded in and bonded to the bricks.

Still another object of the invention is to provide a combined metal and brick building unit embodying air chambers for insulating purposes. This form has the added advantage that the provision of air chambers materially lightens the units whereby they may be more easily handled and placed in a wall.

With the above and other ends in view the invention is more fully disclosed with reference to the accompanying drawing, in which

Figure 1 is a vertical section of a wall;

Figs. 2 and 3 are fragmentary elevations illustrating different brick patterns;

Fig. 4 is an end elevation of a brick;

Fig. 5 is a section illustrating the attachment of bricks to a metal stud;

Fig. 6 is a section illustrating the application of a cement between a brick and its support;

Fig. 7 is a view illustrating a corner brick, and

Figs. 8 and 9 are transverse sections illustrating modified forms of the channel support.

Like characters of reference are employed throughout to designate corresponding parts, the numeral 1 designating a brick having its upper and lower faces formed with a groove 2 extending throughout the length thereof, parallel to the front and rear surfaces of the brick. The numeral 3 designates a metallic channel member for supporting a plurality of bricks, such as the brick 1. The channel member comprises a pair of spaced apart side walls 4 united by a web 5 having a series of lengthwise extending corrugations 6 for reinforcing purposes. Attention is directed to the sharpness of the angles of the corrugation formation, this construction being found to offer more resistance to distortion as a result of torsional stresses than is ordinarily the case, as well as preventing bending when the strip of bricks is being carried for the purpose of assembling it on a wall. The side walls 4 of the channel members are provided with retaining means 7 which extend into the grooves 2 in adjacent faces of the bricks 1.

The channel members 3 are formed of lengths whereby they may be conveniently handled with the bricks therein. An example of such lengths being four to six feet. In this particular form the bricks 1 are, in this embodiment, formed in the usual manner and are placed in the channels after they have been formed. In assembling the channels 3 in a wall care is exercised in the placing of the lower row in order that it will rest in a true horizontal plane. The next row of channels, with the bricks therein, is then secured by nails to the vertical studs of a building as will hereinafter appear.

The method of nailing the channels to the vertical studs is shown more clearly in Fig.1, to which figure reference will now be had. The channels 3 are formed with lengthwise extending, outwardly directed flanges 8 at the top and bottom thereof. One channel is placed against the stud 9 and a double-headed nail 10 is driven into the stud so that its head 11 lightly engages the top flange of the channel. Another channel is then placed so that its bottom flange projects between the head 11 and the stud 9 and another nail is driven so that its head 11 engages the upper flange 8 on the last placed channel. The first mentioned nail is then driven home so that

its head 11 tightly engages the upper and lower flanges on adjacent channels. After the channels have been successively placed in the manner described the voids between the bricks are grouted with mortar as indicated at 12.

Referring to Fig. 5 there is shown a channel and brick construction identical to that described above and to which the same reference characters are applied. In this view, however, there is illustrated a metallic stud 13 such as is used in buildings of all-metal frame construction. In this case the flanges 8 are welded, as indicated at 14 to the stud 13.

In Fig. 6 a channel and brick construction such as described above is illustrated and the same reference characters are applied thereto. In this view, however, the corrugations 6 are filled with a tar base cement, indicated at 15. The cement holds the bricks more securely in the channels 3.

Referring to Fig. 7 there is illustrated a corner brick construction. In this figure the channel 3a is bent at a right angle and the brick 1a is secured therein in the manner described above and is also of right angular form. The angular arms of the brick may be formed of a length corresponding to either a full brick or a half brick.

In Fig. 8 there is illustrated a channel comprised of parallel side walls 20 united by a web 21. The web has a plurality of lengthwise extending ribs 22, extending in spaced relation parallel to the side walls 20, and projecting inwardly of the channel. The brick 23 extends between the side walls 20 and between the ribs 22 and is bonded to the surfaces thereof. It is obvious that in this formation that the material of the brick is effectively bonded to the channel member and that the brick and the channel member each reinforce the other.

In Fig. 9 there is illustrated a channel member having side walls 25 united by a web 26 which is bent inwardly to provide a dove-tailed formation 27. The brick 28 is formed between the side walls 25 and around the dove-tailed formation 27. The undercut portions of the dove-tailed formation provide for very efficient bonding between the bricks and the channel and the building unit thus provided has a lengthwise extending passage 29 which functions as an air insulating pocket. In addition to providing air pockets which function for insulating purposes this form has the advantage that less material is used and that the building units are much lighter and can be more easily handled.

Although specific embodiments of the invention are illustrated and described it will be understood that various changes may be made in the details of construction without departing from the spirit of the invention as defined by the scope of the appended claims, and such changes are contemplated.

What I claim is:

1. In combination, a reinforced channel member, a plurality of bricks, and means for retaining said bricks in said channel member whereby the said plurality of bricks may be handled as a unit, said channel members having laterally extending flanges adapted to be engaged by securing elements for attaching said channel members to a supporting structure, said flanges also constituting means for spacing apart super-posed channels a uniform distance to provide mortar spaces therebetween.

2. In combination, a stud, channel members having bricks retained therein, each channel member having a lengthwise extending outwardly projecting flange, and means for securing said channels to said studs, said means comprising a headed element at top and bottom of each channel with the head on said element engaging top and bottom flanges on said adjacent channel members.

3. In combination, a metal stud, metal channel members having means retaining a plurality of bricks therein, and projecting means formed integrally with said channel members at top and bottom thereof and welded to said stud.

4. In combination, a metal stud, a reinforced metal channel member, a plurality of bricks, means for retaining said bricks in said channel member, and a lengthwise extending outwardly projecting flange on said channel member and welded to said stud.

5. In combination, a metal channel comprised of side walls and a web uniting said side walls, bricks received between said side walls and engaging said web, said side walls being resiliently flexible and being spaced apart a normal distance less than the width of the bricks, and means on said side walls for engaging grooves in said bricks to retain them between said side walls, said means being maintained in said grooves by the resilient pressure induced by inserting the bricks in the channels.

6. In combination, a metal channel comprised of side walls and a web uniting said side walls, bricks received in said channels, and lengthwise extending alternating ribs and grooves on said web extending inwardly of said channel, said ribs being imbedded in said bricks and the surfaces of ribs and grooves being surface bonded to said bricks.

7. In combination, a metal channel comprised of side walls and a web uniting said side walls, bricks received in said channel, means on said side walls for engaging grooves in said bricks to retain them in said channel, and lengthwise extending ribs on said web projecting inwardly of said channel, said ribs being imbedded in and bonded to said bricks.

8. In combination, a metal reinforcing member comprising parallel side walls united by a web portion, a plurality of bricks in said channel and projecting outwardly of said side walls, said web having lengthwise extending portions projecting into the bricks and providing an air channel therein.

9. In combination, a metal reinforcing member comprised of parallel side walls united by a web portion, a plurality of bricks in said channel and projecting outwardly of said side walls, said web having a lengthwise extending dove-tailed formation extending into the bricks and providing an air passage extending throughout the length thereof.

10. In combination, a metal reinforcing member comprised of parallel side walls united by a web portion, a plurality of bricks in said channel, said web having a lengthwise extending dove-tailed formation extending inwardly of the web and spaced from said side walls, said bricks being formed around said dove-tailed formation and between the side walls of said channel.

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