

July 27, 1937.

E. WALLACE ET AL

2,087,931

BRICK CONSTRUCTION

Filed March 6, 1936.

2 Sheets-Sheet 1

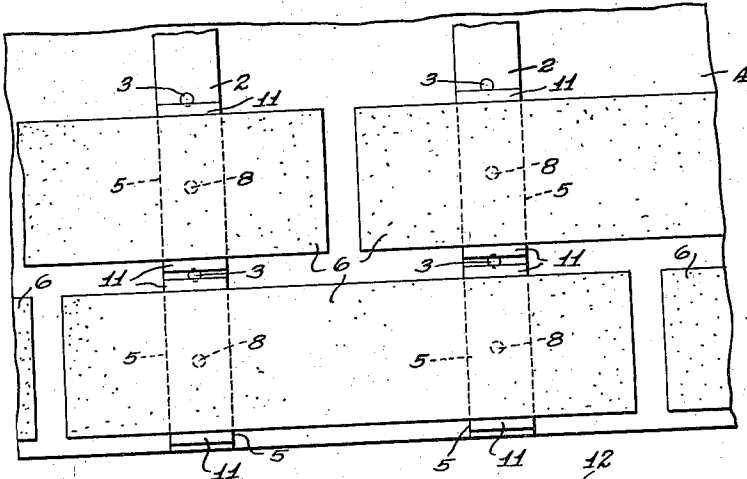


Fig. 1.

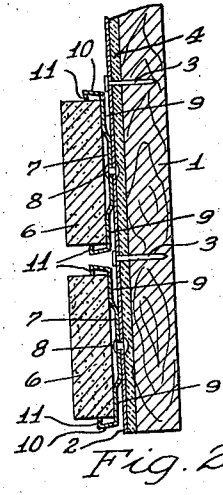


Fig. 2.

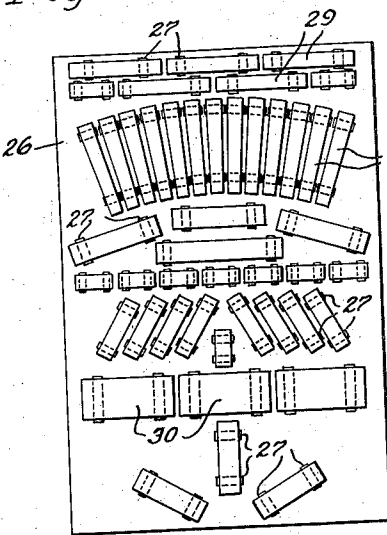


Fig. 6.

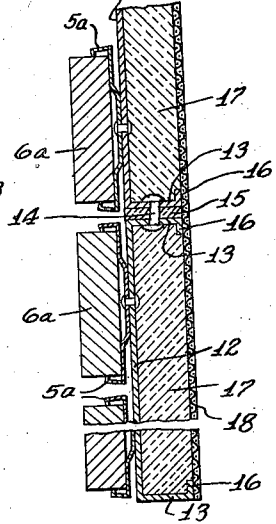


Fig. 3.

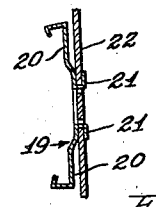


Fig. 4.

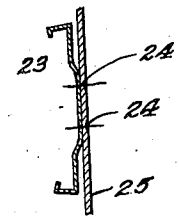


Fig. 5.

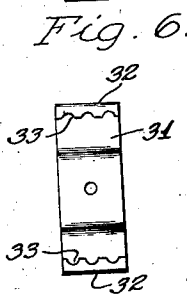


Fig. 7.

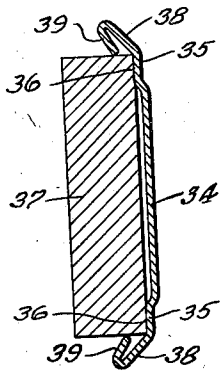


Fig. 8.

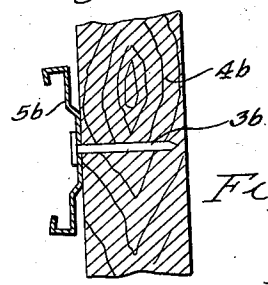


Fig. 16.

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2 Sheets-Sheet 2

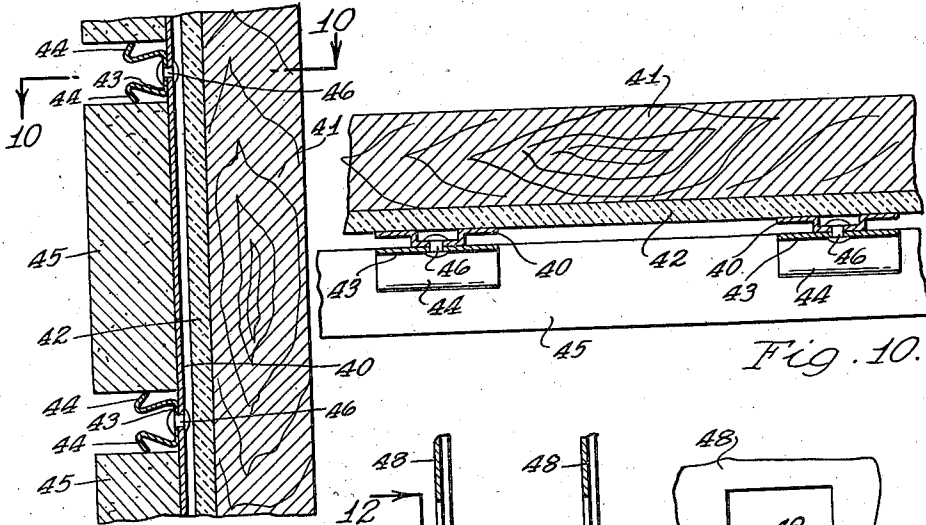


Fig. 9.

Fig. 10.

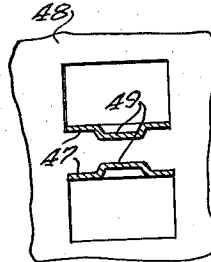
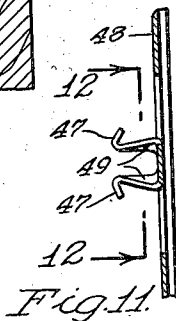


Fig. 11.

Fig. 12.

Fig. 13.

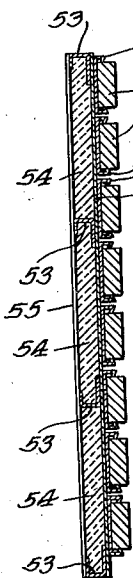


Fig. 15.

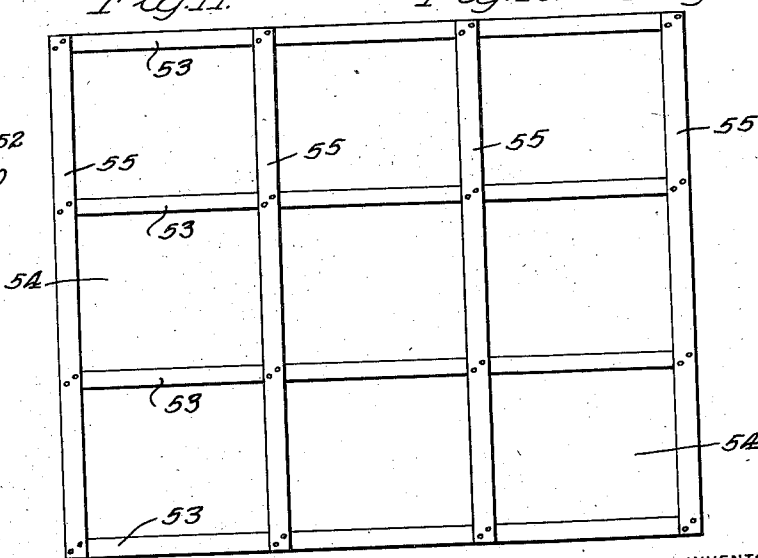


Fig. 14.

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2,087,931

BRICK CONSTRUCTION

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Application March 6, 1936, Serial No. 67,481

13 Claims. (Cl. 72-19)

This invention relates to means for attaching bricks or similar facing elements to the walls or supports of building.

The primary object of the present invention is to provide means for attaching bricks to a wall or support so constructed that each brick is individually supported so that its position in the wall is not dependent in any way upon the other bricks in the wall. The means for supporting the bricks comprises clips and supporting means for the clips so constructed that the clips may be positioned to support bricks in symmetric rows according to the conventional brick wall patterns or they may be arranged to support the bricks in positions providing irregular patterns for artistic panelling purposes.

Another object of the present invention is to provide brick supporting clips formed of spring steel, the clips being so constructed that the bricks may be quickly and easily inserted therein after the clips have been secured to a wall. After the bricks have been assembled in the wall mortar is placed therebetween and forms a rigid body surrounding the clips so that there is very little, if any, possibility of the clips being flexed to permit withdrawal of the bricks therefrom. In addition, the clips are so constructed that any pressure tending to pull a brick therefrom causes a flexing action which increases the tenacity of the holding action of the clips with respect to the bricks.

With the above and other ends in view the invention consists in matters hereinafter set forth and more particularly pointed out with reference to the accompanying drawings, in which

Figure 1 is a fragmental elevation of bricks assembled in a wall and supported by the present clips;

Fig. 2 is a transverse section thereof;

Fig. 3 is a section illustrating an insulation retaining support;

Figs. 4 and 5 are sections illustrating the attachment of clips to their supports;

Fig. 6 illustrates the application of the clips for artistic purposes;

Fig. 7 is an elevation of a clip;

Fig. 8 is a section illustrating another form of clip;

Fig. 9 is a vertical section illustrating a modified supporting clip;

Fig. 10 is a section taken on the line 10-10 of Fig. 9;

Figs. 11, 12, and 13 are sections illustrating another embodiment of a clip, Fig. 12 being taken on the line 12-12 of Fig. 1;

Fig. 14 is a rear elevation of a wall panel; Fig. 15 is a transverse section thereof; and Fig. 16 is a section illustrating a clip directly attached to a wall.

Like characters of reference are employed throughout to designate corresponding parts.

Referring to Figs. 1 and 2, the numeral 1 designates wall sheeting having a plurality of spaced apart strap members 2 secured thereto by nails 3. A layer 4 of insulating material is preferably interposed between the strap members 2 and the sheeting 1 and covers the entire face of the latter. Secured to the straps 2 at regularly spaced intervals are clips 5 supporting comparatively thin bricks 6. Although the bricks 6 are illustrated as being of much smaller cross sectional thickness than conventional bricks it will be understood that they are so formed for purposes of economy only because the present support is sufficiently strong to carry the weight of such conventional bricks if they should happen to be preferred.

The clips 5 are preferably formed of spring steel and have base portions 7 secured to the strap members 2 by rivets 8. Raised arm portions 9 extend outwardly from the base portions 7 a greater distance than the edge surface of the bricks 6, the extending portions 9 being bent outwardly to form arms 10 with inwardly bent terminals 11 for engagement with surfaces of the bricks. The natural resiliency of the clip so constructed forces the terminals 11 into engagement with the brick surfaces and in this respect attention is directed to the fact that the terminals 11 are not normal to the adjacent surfaces of the bricks, but are angularly disposed with respect thereto. The angularity of the terminals 11 provides for engagement of a sharp edge thereof with the bricks which materially increases the tenacity of the holding action.

The clip shown in Fig. 2 has the arms 10 diverging. Fig. 3 illustrates the conditions of the arms reversed, that is, the arms 10a on the clips 5a shown in Fig. 3 converge. The terminals 10a however, are not normal to the surfaces of the bricks 6a, but incline with respect to such surfaces. Fig. 3 illustrates another form of support for the clips, the support comprising panels 12, formed of metal, and having end flanges 13 receiving rivets 14 for securing the panels one to another. Insulation 15 is interposed between the flanges on adjacent panels, and the flanges 13 have retainer portions 16 serving to hold insulation 17 and providing means for the attachment

of a metal lath 18 to the inner surface of the wall formed of such panels.

Fig. 4 illustrates a clip 19 having arm 20 formed of spring steel and equipped with brick engaging means. The central portion or base of the clip is equipped with a pair of pliable arms 21 which extend through apertures in a support 22. The arms 21 are bent around the edges of the apertures to attach the clip to the support. Fig. 5 illustrates another mode of attaching a clip to a support, the clip 23 shown therein being welded at 24 to the support 25.

In Fig. 6 there is illustrated a panel 26 having clips 27 secured thereto in accordance with a predetermined pattern. This view illustrates the applicability of the present device for supporting bricks in artistic patterns. For example, the bricks 28 are supported in an arch formation and are of tapered form. The bricks 29 are of conventional form and are supported in an arch formation by the clips. This view also illustrates the use of different sized bricks, for example, the bricks 30 are of greater width than the other bricks. After the bricks have been assembled on the panel 26 in the manner disclosed the face of the panel and the voids between the bricks are covered or filled with a plaster, such as stucco.

Fig. 7 illustrates a clip 31 of a form described above and having brick engaging terminals 32. In this form the terminals 32 are serrated as indicated at 33 so as to provide for engagement between the terminals and bricks having small or local irregularities.

Fig. 8 illustrates a clip formed of comparatively heavy gauge metal and comprising a base part 34 adapted to be secured by riveting, welding or integral securing elements, as described above, to a supporting member. At the ends of the base 34 are formed raised arms 35 providing a seat 36 for a brick 37. The brick 37 is held against the seat 36 by retaining means formed integral with the arms 35 and comprising obliquely extending portions 38 having a slight amount of resiliency and having integral portions 39 bent inwardly at an acute angle with respect thereto. The angularity of the portions 39 is such that the edges of their end surfaces engage the adjacent surfaces of the brick 37 so that there is a tendency for these sharp edges to cut into the surfaces of the brick and form a slight groove.

Each of the clips above described are adapted to be secured to a wall or a support prior to the insertion of a brick or facing element therein and they are all proportioned so that their brick engaging parts are normally spaced apart a distance slightly less than the width of the brick they are adapted to receive. The bricks are forced into the clips by exerting sufficient pressure on the bricks to spread the retaining parts thereon, the insertion of the bricks being facilitated by the fact that the outer surfaces of the parts which engage the bricks are angularly disposed so that their outer surfaces constitute guiding surfaces which receive the pressure from the bricks being inserted to force the retainers apart.

In Figs. 9 and 10 the numeral 40 designates metallic strips secured to the wall 41, a layer 42 of insulation being provided on the face of the wall to which the strips are secured. As illustrated in Fig. 10 the strips are preferably provided with a lengthwise extending channel formation for stiffening purposes. Secured to the strips 40 are clips 43 having resilient arms 44. Bricks or facing elements 45 are inserted between the arms of pairs of clips and are attached to the wall thereby.

The clips 43 in this form are secured to the strips 40 by rivets 46, but as illustrated in Figs. 11, 12, and 13 the clips may be formed integral with their support, in which case resilient arms 47 are struck out of the support 48 and are preferably provided with reinforcing webs 49 which stiffen the same so that they are not too readily flexible to support the bricks.

Referring to Figs. 14 and 15 there is illustrated a panel 50 having bricks 51 attached to its front face by clips 52. To the rear face of the panel channel members 53 are secured and they function to support insulation 54 with respect to the panel. Strips 55 are secured to the channels 53 to provide a box formation for the purpose of rigidifying the panel.

As illustrated in Fig. 16 the clips may be directly attached to wall sheeting. In this illustration the clip 56 is secured to the sheeting 4b by a nail 3b, and when a plurality of such clips 20 are employed in the formation of a wall they are spaced apart so that each brick of the wall is held by at least two clips. In this manner bricks may be frictionally held with respect to a preformed wall by means which is directly attached thereto.

Although a specific embodiment of the invention has been illustrated and described it will be understood that various changes may be made within the scope of the appended claims without departing from the spirit of the invention, and such changes are contemplated.

What we claim is:—

1. In combination, a support, clips having resiliently yieldable retainer portions adapted to engage facing elements, and means individually attaching said clips to said support in predetermined spaced relation, said last named means comprising pliable arms integral with the clips, the arms being extended through openings in the support and being bent around the edges thereof.
2. A clip comprising a base portion adapted for attachment to a support, a pair of resiliently flexible arms offset from the plane of the base and extending outwardly thereof, the outer ends of the arms being bent outwardly at an angle to the normal plane thereof, and the terminals of the outwardly bent ends being inwardly directed for engagement with a facing element.
3. A clip comprising a base portion adapted for attachment to a support, a pair of resiliently flexible arms offset from the plane of the base and extending outwardly thereof, the outer ends of the arms being bent outwardly at an angle to the normal plane thereof, and the terminals of the outwardly bent ends being inwardly directed for engagement with a facing element, the said terminal portions being disposed in a plane angular to a plane normal to the surfaces of the facing elements they are adapted to engage.
4. A clip formed of spring metal comprising a pair of flexible arms, a base portion uniting said arms, the outer ends of said arms being bent and extending in a direction substantially normal to the plane of said base, and terminals of said outer ends of said arms being bent inwardly and constituting retainer portions for engagement with a facing element.
5. A clip formed of spring metal comprising a pair of flexible arms, a base portion uniting said arms, the outer ends of said arms being bent and extending in a direction substantially normal to the plane of said base, and terminals of said outer ends of said arms being bent inwardly and constituting retainer portions for engagement with

a facing element, the plane of the outer surfaces of said retainer portions converging with respect to the plane of the base portion.

5 6. A wall unit comprising in combination, a metallic panel having flanges thereon, said flanges having means for the reception of securing elements for securing one panel to another in a wall assembly, insulation retaining means supported by said flanges, a layer of insulation retained against said panel by said insulation retaining means, facing elements, and clip members secured to said panel and engaging said facing elements and attaching them to said panel.

15 7. A mosaic wall unit comprising in combination, a metallic panel, means at the edges of said panel for the reception of securing means for securing one panel to another, said means having formations thereon forming insulation retaining means, a layer of insulation attached to said panel by said retaining means, facing elements, and clip members secured to said metallic panel and engaging said facing elements and supporting them in mosaic arrangement on said panel.

20 8. In a wall, a support, a plurality of clips attached to said support and adapted to connect parallel surfaced bricks to said support, each clip having resiliently yieldable portions, and smooth surfaced bricks engaged at opposite parallel sides by the resiliently yieldable portions of the clips and frictionally attached thereby to said support, said bricks being of a width greater than the normal space between said yieldable portions whereby they are held through friction induced by inserting them therebetween.

25 9. In a wall, a support, a plurality of clips attached to said support and adapted to connect parallel surfaced bricks to said support, each clip having resiliently yieldable portions, and smooth surfaced bricks engaged by the resiliently yieldable portions of the clips and frictionally attached thereby to said support, said clips being spaced apart a distance less than the length of a brick whereby each brick is engaged by a plurality of clips, and said bricks being of a width greater than the normal space between said yieldable portions whereby they are held through friction induced by inserting them therebetween.

30 10. In a wall, a support, a plurality of clips attached to said support and adapted to connect parallel surfaced bricks to said support, each clip having resiliently yieldable portions so dis-

posed with respect to the body thereof that they facilitate the insertion of bricks therebetween, smooth surfaced bricks inserted therebetween, said clips having portions which present a corner edge of the end surface thereof for engagement with the smooth surfaces of said bricks, said corner edges being normally spaced apart a distance less than the width of the bricks whereby the latter are held by friction induced by inserting them between said edges.

10 11. In a wall, a support, a plurality of clips attached to said support and adapted to frictionally connect parallel surfaced bricks to said support, smooth surfaced bricks, each clip having resiliently yieldable portions so disposed with respect to the body thereof that they facilitate the insertion of said bricks therebetween, said clips having portions which present a corner edge of the end surface thereof for engagement with opposed smooth surfaces of said bricks, said clips being spaced apart a distance less than the length of the bricks whereby each brick is engaged by a plurality of clips, and said corner edges being normally spaced apart a distance less than the width of the bricks whereby the bricks are held by friction induced by inserting them between said edges.

15 12. In a wall, a support, a plurality of strips attached to said support, resiliently yieldable clips attached to said strips in spaced apart relation, and smooth surfaced bricks received in said clips with opposite parallel surfaces of said bricks frictionally engaged by the clips and frictionally secured to the strips thereby, said strips being spaced apart a distance less than the length of a brick whereby to dispose a plurality of clips for engagement with each brick.

20 13. In a wall, a support, a plurality of clips, smooth parallel surfaced bricks, each clip having a relatively sharp edge for engagement with smooth surfaces of said bricks, and resiliently yieldable means supporting said sharp edges in a position for frictional engagement with said bricks, said resiliently yieldable means supporting said sharp edges spaced apart a distance less than the width of the facing elements whereby resilient pressure developed by deforming said resilient means by insertion of bricks into the clips presses said sharp edges into engagement with the surfaces of the bricks.

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