

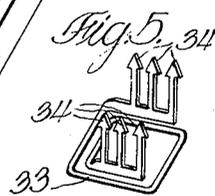
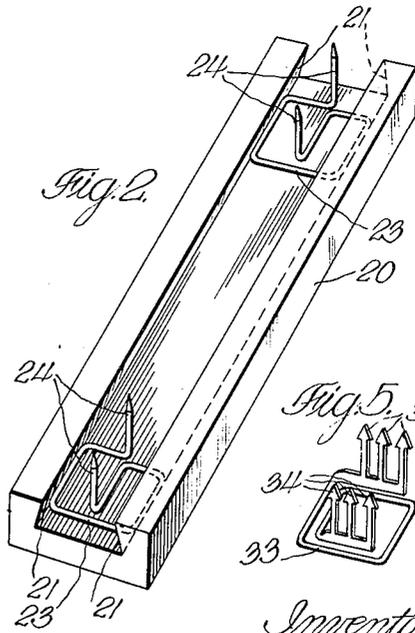
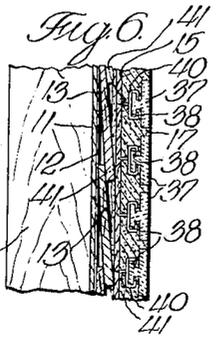
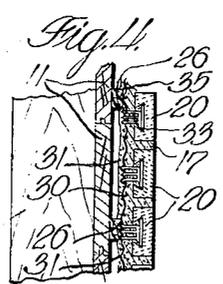
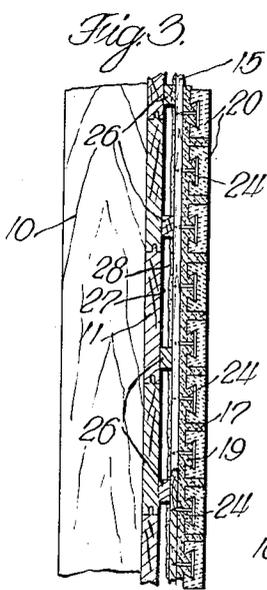
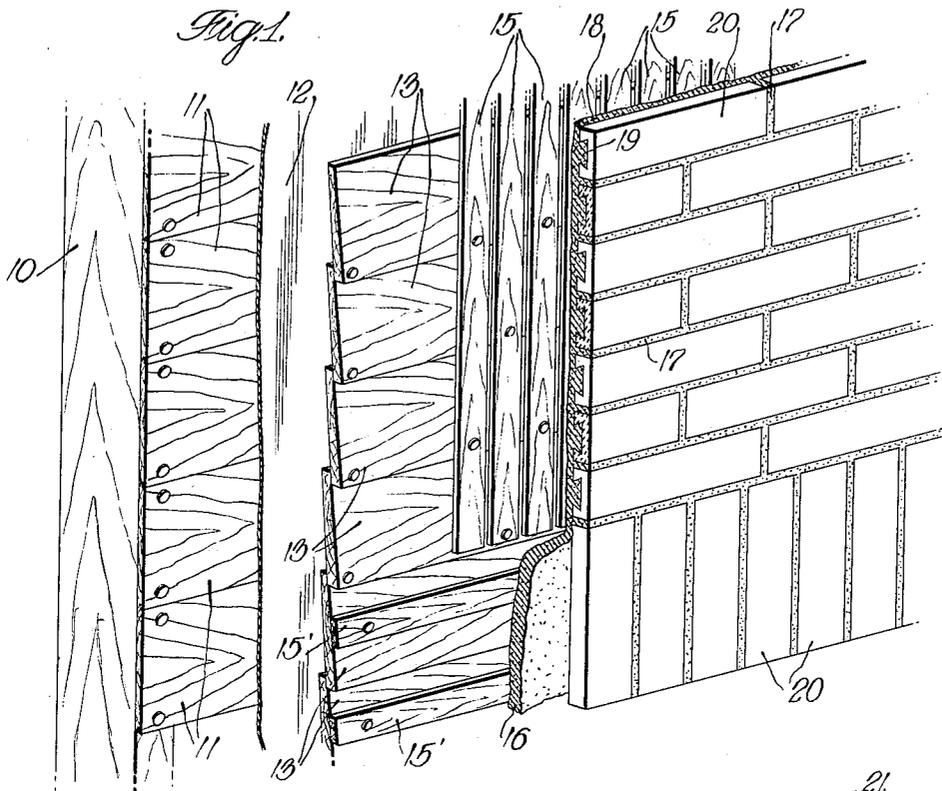
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BUILDING CONSTRUCTION

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BUILDING CONSTRUCTION

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This invention relates to building construction, and is more particularly directed to the construction or application of a veneer surface over a frame or masonry type of building or the like, although the invention is equally useful for providing other types of veneer surfaces.

provide a bonding engagement between the brick and the mortar, which engagement is of distinct advantage in producing a firm and rugged veneer construction.

In the prior art of which I am aware, two general types of veneer construction have been used. In one type, the brick or veneer blocks are provided with an inwardly tapered lip portion which engages over laths nailed to the sheathing of the building. A variant of this type of construction provides a metal strip secured to the surface, with a grooved brick engaging this strip. A second metal strip is then secured in position, and a second course of brick is laid thereover, having a corresponding groove secured by the strip. Mortar is then applied between the bricks for securing them in position. The main disadvantages of such a construction are that the design of the brick work is prearranged, that is, the bricks must be placed in position in accordance with the position of the lath, also, this construction does not provide a positive bond for preventing displacement of the brick, thus prohibiting its use except upon vertical walls. Further, the brick blocks cannot be applied except in horizontal courses, thus preventing individual ornamentation of the walls of the building, such as are usually provided at cornices, window sills, arches, and the soldier course at the base of the wall.

The present invention is directed to a veneer or similar building construction for wall, floor or ceiling surfaces, which overcomes the disadvantages of the prior constructions heretofore provided. In the preferred form of the invention, I provide for applying a brick or veneer block construction in which the individual blocks have a mechanical bond with the surface to which they are applied. Further, the individual blocks have keying engagement with the mortar in which they are set, and the mortar itself is keyed to the surface over which the blocks are applied. In this manner, the blocks are positively secured and bonded in position and thus may be used for either walls, ceilings, or floor surfaces.

The other type of construction of which I am aware comprises the cementing of half bricks or veneer blocks to a composition wallboard material, usually by means of asphalt or a similar compound. This does not provide an advantageous construction, since the deterioration of the wallboard will result in loosening of the bricks, and the bricks have no keying engagement with the wallboard or the sheathing beneath it to prevent their displacement. Further, such a construction cannot be used advantageously adjacent corners, around windows, or the like, since the wallboard with the bricks secured thereto is formed and applied in particular panel sizes or strips. This in nowise facilitates construction of a brick veneer surface of pleasing and individual external appearance.

The inherent disadvantage of both these types of construction is the necessity of tuck pointing the joints after the veneer units have been placed in position, which does not insure that the joint will be properly filled. This tuck pointing after the brick has been placed in position does not

The blocks in the construction of the present invention may be applied in any desired manner, such as in horizontal or vertical courses, also, they may be spaced out of vertical planar alignment in order to produce desired individual artistic effects for arches, cornices, window sills and the like, or to provide a skintied effect.

One of the features of the present invention resides in providing brick or veneer blocks having mortar-engaging surfaces providing for keying of the mortar within grooves or dovetail edges formed on the under surface of the block. For example, bricks or blocks having their inner surfaces provided with dovetail openings for securing keying engagement of the mortar therein may be used. Also, blocks having a substantially I-beam section may be provided, wherein the mortar is squeezed about and engages over the inner flange of the brick to form a mechanical bond therewith. Various other types of block sections providing for this mechanical bond between the mortar and the block are contemplated in the present invention.

In the application of the present invention to provide a veneer surface for frame buildings having their outer walls of the "clapboard" type, the clapboards are first covered by a plurality of spaced laths, which may be laid either vertically or horizontally, depending upon whether the bricks are to be laid in horizontal or vertical courses. Mortar is then applied over the lath surface to a depth sufficient to provide mortar for entering the keying grooves formed in the inner surface of the brick and for keying engagement between the spaced laths. The brick

or veneer blocks are then seated in the mortar, some of the mortar being squeezed into the grooves or keying joints of the bricks, some of the mortar being forced between the laths, and
 5 some of the mortar being squeezed up around the sides of the bricks.

The bricks are also provided with clips formed of wire or flat stock, which are preferably sprung into engagement with the inner surface of the brick, either in the dovetail joint, about the inner
 10 flange, or in any other desired manner, depending upon the type of block section which is provided. These clips are formed with normally extending piercing means which, when the block is
 15 placed in position, are driven into the lath, clapboard or sheathing in order to secure the brick in fixed position and to provide an additional mechanical bond for holding the brick in place.

It is therefore apparent that the bricks are
 20 fixed in any desired position with respect to the surface to which they are applied, and are firmly and mechanically bound thereto. It is to be understood that various types of clips may be used, and that metal lath or expanded metal may be
 25 employed in place of wooden lath strips. Further, the veneer construction of the present invention may be applied directly over the external surface of a frame building, or may be applied over the sheathing of an uncompleted frame
 30 building, as well as over other frame or masonry surfaces.

Now, in order to acquaint those skilled in the art with the particular construction and use of
 35 my invention, I shall describe the same in detail, reference being had to the accompanying drawing illustrating a preferred embodiment thereof.

In the drawing:

Figure 1 is a perspective view of a clapboard
 40 building construction with the veneer blocks of the present invention applied thereto;

Figure 2 is a perspective bottom view of one of the blocks used in Figure 1;

Figure 3 is a vertical sectional view of a
 45 veneer construction applied directly to the sheathing of an unfinished frame building;

Figure 4 is a view similar to Figure 3 showing the use of metal lath or expanded metal in
 50 place of wood lath;

Figure 5 is a perspective view of a clip used in the embodiment of Figure 4; and

Figure 6 is a vertical sectional view of a wall embodying the use of a veneer block of I-beam section.

Referring now in detail to Figure 1, in this
 55 figure I have disclosed the application of the veneer construction of the present invention to the exterior wall of a frame building. In the ordinary type of frame building, there is usually provided
 60 the studding members indicated at 10, the sheathing members 11 nailed thereto. Over the sheathing 11 there is preferably provided a layer of tarpaper or the like, indicated at 12, and the clapboards 13 are nailed directly over the paper 12.
 65 This construction is well known in the art, and needs no further detailed description.

In carrying out the present invention a plurality of spaced laths are nailed over the clapboards 13, these laths being indicated in Figure 1
 70 by the reference numeral 15. If it is desired to lay the bricks in a horizontal course, the laths 15 are spaced apart laterally and nailed in a vertical direction. If it is desired to lay the bricks in a vertical course, the laths are laid horizontally, as indicated by the laths 15' of Figure 1.

In the latter case, the laths are nailed centrally of the clapboards, in order to provide a substantially planar vertical surface.

After the laths have been placed in position, a layer of mortar is applied thereto, this mortar
 80 being spread over the surface of the lath to a thickness substantially that indicated by the section of mortar indicated at 16. A portion of the mortar enters between the laths, and, when the brick or veneer block is applied to the sur-
 85 face, the mortar is further squeezed between the spaced laths and forms a keying engagement therewith. Also, some of the mortar is squeezed up between the individual blocks, as indicated at
 90 17 in Figure 1, while the remainder of the mortar spaces the blocks a slight distance above the laths, as indicated at 18, and enters into keying engagement with the inner surface of the block, as indicated at 19.

Considering now in detail the blocks applied
 95 to the mortared surface, in Figure 2 I have disclosed such a block in detail. This block may be formed of clay, or other desired material. The block is indicated generally at 20, and is provided with the dovetailed edges 21 forming a
 100 dovetail joint for the reception of mortar to key the block to the surface. The manner of molding such type of brick is well known, and needs no detailed description.

The block is provided with one or more clip
 105 members 23, which may be of the form shown in Figure 2, and which are ordinarily provided with a pair of spaced projecting pointed end members 24. The clip may be snapped into
 110 position, and is slidable within the dovetailed joint 21 to any desired position with respect to the length of the brick. Preferably, two clips are provided in order to give a more effective and uniform keying action. The points 24 are spaced
 115 apart a distance such that at least one point will always enter one of the laths 15. Thus, when the brick is applied to the mortared surface, the operator drives the points 24 into the laths with the handle of his trowel, at the same time forcing the brick or block down into the mortar.
 120 It is within the scope of the present invention to provide for setting of the bricks by other methods, such as by mechanical means, or the like. These points hold the block in position until the mortar has set, obviating any danger
 125 that the weight of one course of brick will distort the bricks in a lower course. The points 24 provide for keying engagement of the brick with the laths or sheathing. At the same time, the mortar is forced up into the dovetail joint 21
 130 of the bricks, as indicated at 19 in Figure 1. Also, some of the mortar is squeezed up about the sides of the brick, as indicated at 17. Further, some of the mortar is squeezed into the space between the laths, forming keying en-
 135 gagement therewith. The remainder of the mortar forms a bed for the under surface of the brick, and is indicated at 18.

It will thus be apparent that the brick is
 140 keyed into position by at least three separate and distinct keying means. First, the pointed ends 24 of the clip members 23 provide for direct keying of the brick to the laths, sheathing, or clapboards. The provision of the dovetailed joint 21 provides for keying of the brick with
 145 respect to the mortared surface. Also, the pressure of the brick upon the mortared surface forces the mortar between the laths 15, and thus provides for additional keying of the mortar with respect to the laths. Thus the brick
 150

is firmly held in fixed position upon the surface. At the same time, it will be apparent that any desired ornamental or artistic appearance may be given to the finished surface, since each of the bricks is individually disposed upon the surface.

Considering the embodiment shown in Figure 3, the bricks 20 of this embodiment are applied to a frame construction which is not finished with clapboards or on masonry walls. In this embodiment, in which I have shown the application to a frame surface, although the batten strips might equally well be applied to a masonry surface, the studding 10 is provided with the sheathing 11 in the same manner as described in connection with Figure 1. Disposed upon the sheathing 11 are a plurality of batten strips 26, which serve to space the laths 15 from the sheathing.

These batten strips 26 also provide a space between the laths and the sheathing which accommodates mortar forced between the laths and provides keying engagement of the mortar over the inner surface of the laths. As will be noted, a portion of the mortar enters this space, indicated at 27, and provides a keying portion 28 preventing displacement of the mortar from the lath. It will be noted, also, that the clip members having the extending ends 24 pierce the lath and provide a mechanical bond between the brick and the lath. In other respects, the embodiment disclosed in Figure 3 is similar to the embodiment of the invention disclosed in Figure 1, and provides the same effective means for individually disposing each of the bricks in position upon the veneer surface. Thus any desired ornamental or individual finish may be given to the veneered surface.

In the embodiment of Figure 4, I have disclosed the use of the veneer blocks in connection with metal laths or expanded metal applied to the batten strips 26. This type of lath is well known in the building art, and need not be described in detail in connection with this embodiment. Suffice it to say that the lath is nailed to the batten strips 26, and presents a somewhat irregular planar surface which is coated with the mortar 30, as shown in the drawing. A portion of the mortar, indicated at 31, is forced through the opening in the lath, and forms a keying engagement with the interior surface of the lath. The blocks or bricks 20 of this embodiment correspond to the blocks 20 disclosed in Figures 1 to 3, inclusive, but are provided with a modified form of clip member 33, which is shown in detail in Figure 5.

This clip 33 is similar in general configuration to the clip 23, but its ends are provided with normally extending spear points 34, which are adapted to enter the openings formed in the metal lath 35 of the construction shown in Figure 4, the spacing of the spear points 34 being such that at least one of the plurality of points will find keying engagement with an opening in the lath. As before, preferably two clip members 33 are provided in the dovetailed groove 21 of the block 20, in order to assure positive binding of the block with respect to the lath. The mortar enters between the blocks, as indicated at 17, in the same manner as described in connection with Figures 1 and 3, and also forms keying engagement with the groove 21 formed in the block.

It is to be understood that any desired form of clip member may be provided, and that either one or more clip members may be used with each

block. Further, the points of the clip members 23 or 33 may be extended sufficiently so that the members will enter the sheathing 11, if desired. Further, the lateral spacing of the points of each of the clip members is such that regardless of the spacing of the laths, at least one of the pointed ends of the member 11 find keying engagement in the lath.

Considering now in detail the embodiment shown in Figure 6, I have provided therein a wall construction similar to that provided in Figure 1, comprising the studding 10, the sheathing 11, the tarpaper or similar material 12, and the clapboards 13. Nailed to the clapboards 13 are the vertically extending laths 15, which may be extended horizontally if it is desired to lay the blocks in a vertical course. The blocks of the embodiment shown in Figure 6 provide the same keying features as disclosed in connection with the block 20, but in this embodiment are formed two relatively heavy flanged portions with an intermediate web portion, corresponding roughly to an "I-beam" section.

These blocks are indicated in section by the reference numeral 37, and, as shown, have the inwardly disposed flange portion 38. It will be noted that the blocks, when placed in position, will allow the mortar which is applied over the laths 15 to enter about the inner flange 38, and form keying engagement with the web portion of the block which extends between the inner and outer surfaces thereof. This provides an effective keying engagement of the mortar with the block. Also, a portion of the mortar is forced up around the edges of the block, as indicated at 17.

In order to provide for keying engagement of the block with respect to the laths 15, I provide a spring clip of generally channel section, indicated at 40 in Figure 6, which is adapted to have lateral sliding engagement with the inner flange 38 of the block 37. The clip 40 has inwardly extending pointed portions 41, similar to points 24 and 34 of clips 23 and 33, which are adapted to be driven into the lath 15, or, if desired, may be extended sufficiently to penetrate into the clapboards 13. This clip functions in the same manner as the clips 23 and 33 described previously, and forms a positive binding engagement between the lath or sheathing and the block. Preferably two clips are provided for each of the blocks 37.

It is apparent, in this embodiment, that the same features of the mechanical bonds between the lath and the block, and between the mortar and the lath, and the mortar and the block, are provided, as are provided in the embodiments of Figures 1, 3 and 4.

It will therefore be seen that I have provided a veneer construction for frame or masonry buildings or the like, which overcomes the disadvantages present in the prior types of veneer construction, such as pointed out above, since I am able, by reason of the construction disclosed in the present invention, to provide a veneer surface for a frame building which will be individual in appearance, and in which the bricks may be set or positioned in any desired manner with respect to the surface to which they are applied. Further, the bricks or blocks used are mechanically keyed to the lath or sheathing, and are also mechanically keyed with respect to the mortar in which they are set. Also, it is apparent that the particular details of construction of the present invention may be varied within wide limits,

while retaining the essential and advantageous features which have been described.

I therefore do not intend to be limited to the exact structural details shown and described, but only in so far as defined by the spirit and scope of the appended claims.

I claim:

1. In a veneer construction for frame buildings having sheathing secured to the studding thereof, the combination of means including a planar surface spaced outwardly from the sheathing of said building, said surface having openings therethrough, a layer of mortar applied over said surface, and bricks keyed in said mortar and having driven means for securing mechanical bonding engagement in said surface, said bonding engagement being effected by driving said bricks into position in said mortar, in a direction substantially normal to the surface of the wall.

2. In a veneer construction to be applied over the sheathing of a frame building, means comprising a planar surface spaced outwardly of said sheathing and having openings therethrough, a layer of mortar applied over said surface, bricks adapted to be set in said mortar and having recessed bonding portions engaging in said mortar, and pin members secured to said bricks by engagement in said bonding portions and adapted to key said bricks to said surface.

3. In a veneer construction to be applied over the sheathing of a frame building, the combination of means comprising a planar surface spaced outwardly from the sheathing of said building, said surface having openings therethrough, a layer of mortar applied over said surface, bricks adapted to be set into said mortar, said bricks having dovetailed recesses providing for bonding between said mortar and said bricks, said mortar having keying engagement in the openings in said surface, and driven means engaged in said recesses and engaging in said surface between said openings when said bricks are set into the mortar.

4. In a veneer construction to be applied over the sheathing of a frame building, the combination of means including a planar surface spaced outwardly from the sheathing of said building and having openings therethrough, a layer of mortar applied over said surface, bricks adapted to be set into said mortar, said bricks having dovetailed joints providing bonding engagement between said mortar and said bricks, said mortar having keying engagement in the openings in said

surface, and keying members resiliently secured to the dovetailed joints of said bricks and adapted to engage in said surface when said bricks are positioned in said mortar.

5. In combination, in a building construction, a lath surface, a layer of mortar applied over said surface and keyed thereto, bricks adapted to be set in said mortar and having inwardly extending bonding surfaces, and rigid keying members carried by said bonding surfaces and adapted to be driven into said lath surface, said keying members mechanically securing said bricks to said lath surface and said bonding surfaces keying said bricks in said mortar.

6. The combination with a brick for use in veneer construction having a dovetailed recess formed in one surface thereof adapted to receive mortar, of a clip member resiliently engaged in said recess and having rigid pointed means extending normal to the surface of said brick adapted for driven engagement with the surface to be veneered.

7. The combination with a brick for use in veneer construction having a dovetailed joint formed in one surface thereof, of a clip member resiliently engaged in said joint and having pointed means extending normal to the surface of said brick, said clip being laterally adjustable in said joint.

8. The combination with a brick for use in veneer construction having a dovetailed joint and adapted to be secured over a lath surface comprising a plurality of spaced lath members, of a clip member resiliently engaged in said joint and having its ends extending normal to the surface of said brick, said ends being spaced laterally a distance greater than the distance between the laths forming the lath surface, and less than the overall width of an individual lath.

9. A wall having a recess for the bonding of a cementitious material therein, a building block for facing said wall, said block having a recess on the rear side for the bonding of a cementitious material therein and having on its rear side a self-attaching projection which is capable of penetrating said wall to a predetermined extent by a driven motion, and a layer of cementitious material disposed between said wall and said block and adapted to be forced into bonding engagement in the recesses of said block and wall upon penetration of said wall by said projection.

EDGAR G. ZACK.

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