July 15, 1941. H. A. MULDERINK 2,249,028

BUILDING CORNER AND METHOD OF MAKING THE SAME

Filed March 4, 1940

FIG. 1.

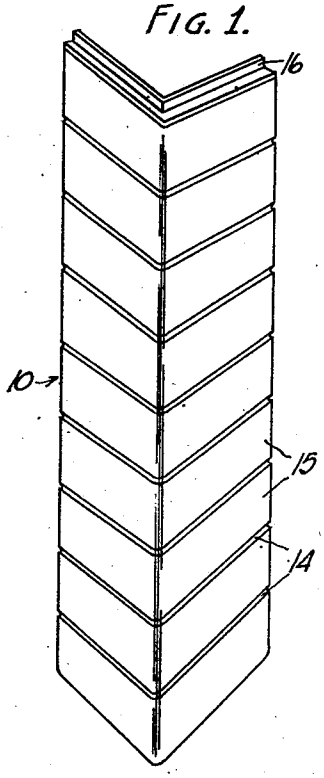


FIG. 2.

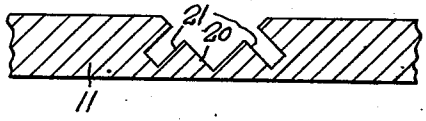


FIG. 3.

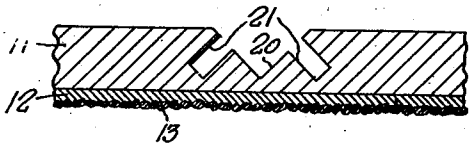


FIG. 4.

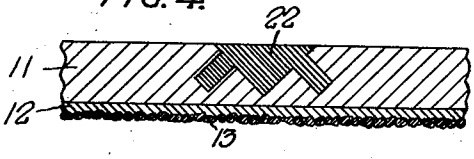


FIG. 8.

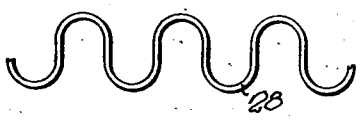


FIG. 5.

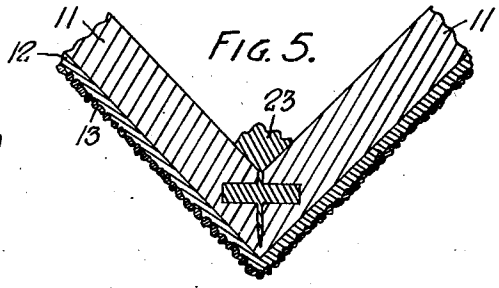


FIG. 7.

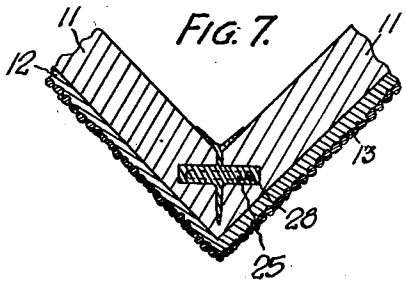
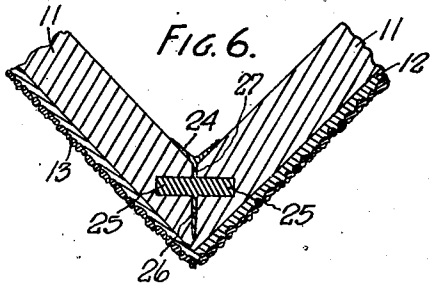


FIG. 6.



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BUILDING CORNER AND METHOD OF MAKING THE SAME

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Application March 4, 1940, Serial No. 322,076

11 Claims. (Cl. 20—5)

This invention relates to building corners and method of making the same. More particularly the invention relates to a building corner of the type having a rigid composition board base coated with waterproof material and covered with surfacing material to which a masonry-simulating design is applied.

In the conventional building covering material of this character, the corner unit usually constitutes the weakest and most fragile portion. Various attempts have been made to strengthen the same, but these have been objectionable for various reasons. Principal among these objections have been high cost of labor and materials required, liability to breakage, and cracking of the surfacing and the like with resultant danger of leakage at the cracks and loss of positive weatherproof character. Inasmuch as a corner unit is made from two separate panels, or from a single panel which is deeply grooved and then bent at the thin portion at the base of the groove, it is necessary to provide means for holding the angularly disposed panel parts solidly together in desired form. One construction of this character is illustrated in the patent to Maclean, No. 2,101,589, dated December 7, 1937, and utilizes reinforcing means at both inner and outer faces of the corner. The principal objection to such a construction is that it entails great expense, and particularly a high labor cost. Corners which are not so positively reinforced are weak, subject to leakage and are generally unsatisfactory in use when applied to a building and subjected to wear and weather.

Therefore, the primary object of this invention is to provide a corner unit which is simple and inexpensive in construction, and which requires a minimum amount of labor and comparatively inexpensive material to manufacture and reinforce the same.

A further object is to provide a quick simple and inexpensive method for forming a reinforced corner construction.

A further object is to provide a corner unit which is formed from angularly disposed portions of composition board provided with meeting faces having key ways which receive a reinforcing and connecting element entirely confined within the body of the corner.

A further object is to provide a corner formed from two angularly disclosed corner pieces meeting at a bisecting angle, and having pockets communicating with the meeting faces thereof and filled with plastic material.

A further object is to provide a corner having angularly disposed parts having meeting faces provided with cavities, wherein adhesive plastic material is interposed between said faces, and also fills said cavities to form interior anchors.

A further object is to provide a corner having an interior pocket extending into each of two angularly disposed parts thereof and receiving plastic material and a metallic reinforcing element imbedded in said plastic material.

A further object is to provide a method of building a corner wherein a panel is grooved in desired configuration, is then filled with plastic material, and is then bent to and held at a desired angle until the plastic material sets and hardens.

Other objects will be apparent from the description and appended claims.

In the drawing:

Fig. 1 is a perspective view of a corner piece.

Fig. 2 is a fragmentary sectional view of a grooved blank illustrating one of the first steps of applicant's method.

Fig. 3 is a fragmentary sectional view illustrating the grooved panel having waterproofing and decorative or surface material applied to the outer face thereof in a subsequent step of the method.

Fig. 4 is a fragmentary transverse sectional view illustrating the blank after the step of filling the groove of the panel with plastic material.

Fig. 5 is a fragmentary sectional view illustrating the corner bent to shape after the groove has been filled with the plastic material.

Fig. 6 is a fragmentary sectional view illustrating the finished corner construction.

Fig. 7 is a fragmentary sectional view of a corner construction utilizing the plastic interior reinforcement and a metal reinforcing member imbedded in said plastic.

Fig. 8 is a fragmentary side view of a metal reinforcing member.

Referring to the drawing which illustrates the preferred embodiment of the invention, the numeral 10 designates an elongated corner unit preferably formed upon a base of composition board 11, such as Celotex or Insulite. The base 11 may be provided with a suitable surface saturation of waterproofing material, such as asphalt, if desired, said saturation not being illustrated herein. A layer of waterproofing material 12, such as a bituminous material, asphaltum, or the like is applied over the outer face and edges of the panel 11; and surfacing material of desired texture and color, such as grit, brick particles, stone particles, mineral granules or the

like, as designated at 13, is applied over and partially embedded in the waterproofing coating 12. The waterproofed and surfaced face and edges of the corner piece may be provided with a plurality of mortar joint simulations, such as linear depressions 14 or the like, said mortar joint simulations either exposing the bituminous material or being provided with grit of a color different from that used upon the portions of the faces 15 outlined thereby which simulate the brick or other masonry faces of the corner unit.

The decorative and waterproofing materials 12, 13 preferably are extended around the vertical edges of the corner unit, especially in instances where the corner unit is laid in overlapping relation to other units of a corner. In such instances, it will be understood that the mortar joint simulations must extend to said edges. The end edges of the corner pieces may be provided with shiplapped joints as illustrated at 16 in Fig. 1, whereby a sealed joint may be provided between abutting coplanar corner units or pieces.

Referring now to Figs. 2 to 6, inclusive, which illustrate the preferred embodiment of the invention and method of producing the same, it will be seen that a panel 11 of composition board is provided with a V-shaped cut or groove 20 in one face thereof extending substantially therethrough. The groove 20 is preferably formed with the two faces thereof extending in equiangular relation to the face of the board in which the cut is made. Grooves or cavities 21 are formed in the opposite faces of the main groove 20 in complementary relation. The grooves 20 and 21 may be formed by any suitable routing or cutting means. Groove 20 will extend for the full length of panel 11, and grooves or cavities 21 may either extend for the full length of the panel or may be of shorter length and arranged in spaced relation along the length of the panel. It will, of course, be understood that if desired separate panels 11, provided with complementary beveled edges in which longitudinally extending grooves corresponding to 21 are formed, may be employed as the foundation of the corner piece.

After the board has been grooved or cut as aforesaid, the panel may be suitably processed to waterproof the same. This may include the saturation of the board to a shallow depth at all exterior surfaces thereof, if desired. The waterproofing also includes the application of the layer 12 of waterproofing material at the face of the board 11 opposite the grooved face. The granules 13 may be applied and suitably rolled into the asphaltum in connection with the waterproofing and coating operation. It is also desirable that suitable reinforcing means, in the nature of fibers or other thin flexible elongated members (not shown) extending transversely of the direction of and in registration with the groove 20, and underlying the layers 12 and 13, be provided as illustrated in the aforesaid patent to Maclean, No. 2,101,589. It may also be desirable in connection with the waterproofing operation to form the mortar joint simulations or lines 14 while the blank is still in flat form as illustrated in Fig. 3.

After the waterproofing and surfacing operations have been completed, the panel 11 is positioned with its grooved face uppermost, and a quantity of plastic material 22, such as asphalt, bituminous material, or the like, is applied within the grooves 20 and 21 to substantially fill the same. Immediately thereafter, and while the plastic 22 is still in a fluid condition, the panel of blank 11 is bent to the position illustrated in Fig. 5 with the panel portions on opposite sides of groove 20 extending at the desired angle with respect to each other. The bending of the panel 11 causes extrusion or expulsion of a quantity 23 of the plastic material from the groove, and assures that the meeting faces or edges of the two portions of the panel are provided with adhesive plastic material therebetween. Also, by first filling the grooves 20 and 21 with plastic material and then bending the panel 11 at the groove, a solid quantity of the plastic material is retained within the grooves or cavities 21.

The corner unit is held in the desired angular relation while the thermoplastic material is setting, and preferably during this time the excess material excluded at 23 in Fig. 5, is scraped away, thus leaving only a small quantity thereof as illustrated at 24 in Fig. 6 to constitute an interior angled, L-shaped protective and binding portion. It will be observed that the plastic material constitutes a key 25 extending into each of the two angularly disposing parts of the corner within the grooves or cavities 21, said grooves or cavities preferably being so positioned that the same are transversely aligned and in communication when the corner is formed. A thin web 26 of the adhesive plastic material extends outwardly from the keying portion 25 to a point adjacent the outer edge of the corner and between the meeting faces of the two parts of the corner, and a similar adhesive portion 27 extends between the meeting faces of the two parts of the corner outwardly of the key. It will be understood, of course, if separate panels with complementary beveled edges are employed, rather than a grooved panel as above described, substantially the same sequence of operations may be followed. However, in such an instance, care must be exercised to properly maintain the separate panels in operative relation, and to effect and maintain registration of the beveled edges when the panels are shifted to angular corner-forming relation.

If desired, a metal reinforcement 28 may be utilized to further strengthen the corner. This metal reinforcement may preferably consist of a flexible wire which is so bent, as by alternate reversed U bends, as illustrated in Fig. 8, that it will position itself between the opposite grooves 21.

It will be observed that when the plastic material sets up a solid key or anchor 25 formed of said plastic material and having substantial adhesive properties and strength, extends between the two parts of the unit and serves to solidly hold the same together. The corner is strong, will hold the desired angle, and otherwise serves fully for its intended purpose, without requiring the application of a preformed reinforcing unit extending between the two angularly exposed panel portions as has heretofore been customary and necessary.

The labor required to fill the grooves with the plastic material, and then to bend the panel and to scrape the excess thermoplastic material excluded therefrom incident to the bending operation, is much less than required to handle and apply preformed reinforcing means in operative relation to the angularly disposed portions of a corner. Likewise, the cost of the preformed reinforcing material conventionally employed is

at least as great as the cost of the plastic material required in the instant invention.

I claim:

1. A building corner comprising a pair of angularly disposed rigid portions having abutting edges, each portion having a recess at said edge, and thermoplastic material between and adhering to said edges and filling and adhering to said recesses.

2. The construction defined in claim 1, and a metal reinforcing member imbedded in said thermoplastic material.

3. The construction defined in claim 1, and a bent wire reinforcing member imbedded in said thermoplastic material.

4. The construction defined in claim 1, having a continuous layer of thermoplastic material integral with said first named material and adhering to the inner faces of said rigid portions adjacent said abutting edges.

5. A building corner formed of rigid composition board having a waterproof and decorative outer surface coating, said corner comprising angularly disposed board portions having abutting edges and opposed recesses in said edges, and plastic material adhering to said edges and filling said recesses to form an interior anchor within the outline of said corner and spanning said abutting edges.

6. A building corner formed of rigid composition board grooved at one face and bent at said groove to provide a pair of integral angularly disposed portions, each of said portions having a recess therein open at said groove, and adhesive material between said edges and providing a rigid anchor having opposite portions thereof seated in said recesses to maintain said corner in bent form.

7. A building corner formed of rigid composition board coated at one face and grooved at its opposite face, said groove being of configured cross section to accommodate bending of said board and formation of communicating longitudinal passages in said corner at opposite sides of said bend, and rigid means having its opposite sides disposed in said longitudinal passages to hold said board in bent form.

8. The method of forming a building corner comprising the steps of forming a groove in a rigid panel of composition board, said groove having converging faces interrupted by recesses, filling said groove and recesses with heated thermoplastic material, bending said panel at said groove to position said faces in substantially parallel juxtaposed relation, and holding said panel in bent position until said thermoplastic material sets.

9. The method defined in claim 7, including the step of removing thermoplastic material expelled from said groove incident to said bend.

10. The method of forming a building corner comprising forming tapered complementary edges each interrupted by a longitudinal recess in a pair of complementary juxtaposed rigid panel portions whereby a longitudinal groove is provided between said panel portions, filling said groove with plastic material in fluid form, and positioning said panel portions in angularly disposed relation with said faces in adjacent facing position until said plastic material sets.

11. The method defined in claim 10, including the step of embedding a metal reinforcing member in the plastic material within said recesses.

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