July 31, 1962 A. W. L. DAVENPORT 3,046,700

WEATHERBOARDING CONSTRUCTION AND METHOD FOR EXTERIOR WALLS

Filed Sept. 21, 1955

FIG. 2

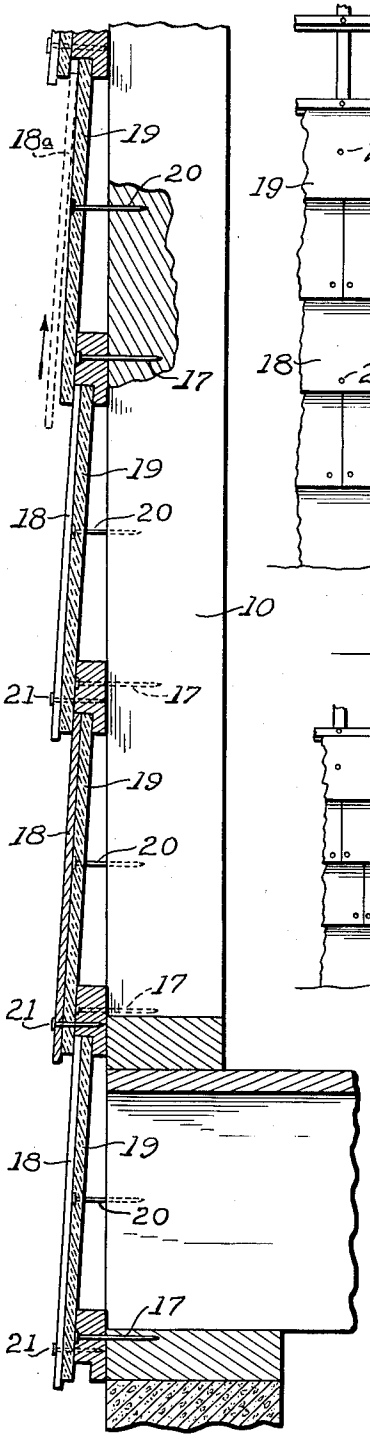


FIG. 1

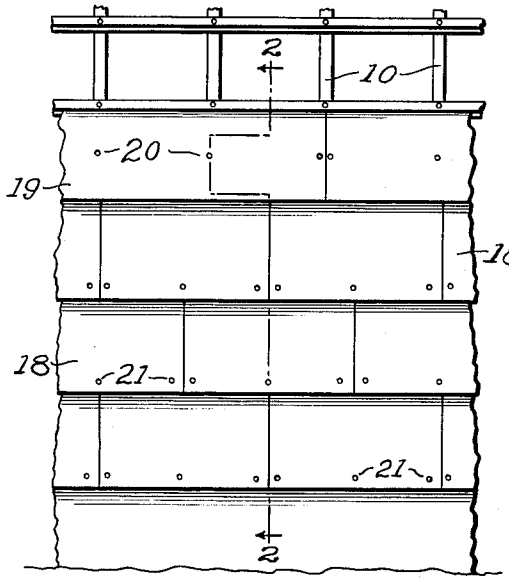


FIG. 4

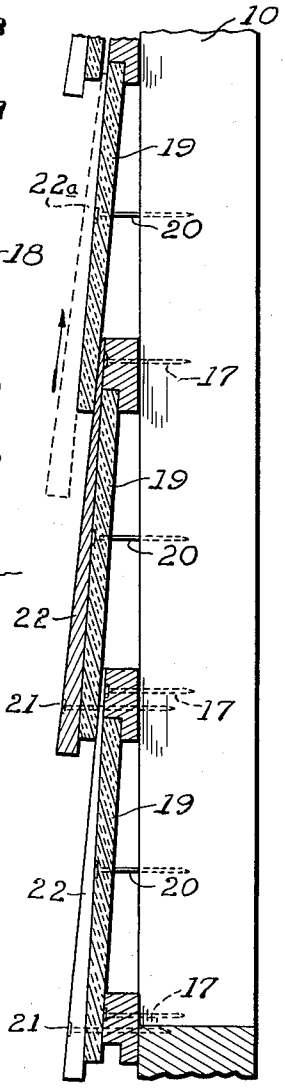


FIG. 3

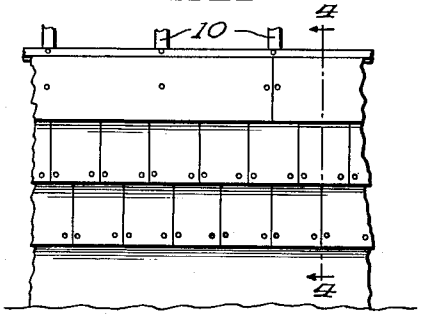
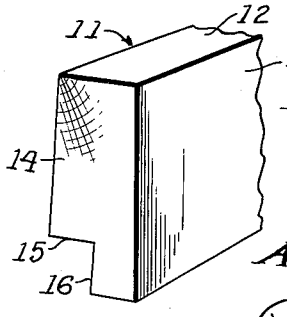


FIG. 5



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WEATHERBOARDING CONSTRUCTION AND METHOD FOR EXTERIOR WALLS

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This invention relates to an improved weatherboarding construction for exterior walls and to an improved method of applying weatherboarding in the form of shingles.

Shingles are now widely used for weatherboarding in building construction, and particularly in the design of houses wherein it is desired to obtain maximum quality of construction with minimum cost. Wood shingles, especially of red cedar, have been heavily used in many parts of the country where masonry walls are prohibitive in cost. Asbestos shingles have improved considerably in quality and durability and are widely used in all areas because of low cost and resistance to deterioration.

A major cost factor in the use of shingle weather walls has been the cost of labor for constructing the wall, and reduction of this labor expense can aid materially in cutting high overall construction costs. Shingle walls generally require experienced and skilled labor for a construction that meets industry and loan agency requirements.

In the present use of wood and asbestos shingles, the base wall is usually formed of 2 x 4 vertical studding spaced twelve to sixteen inches on centers. To the outside of the studding is applied diagonally directed 1 x 8 rough sheathing, or a panel insulating sheathing of several well known brands. To this is generally applied an asphalt building paper. The shingles are applied in courses and not only must the first and lower course be carefully aligned, but also each succeeding course. The heaviest time factor, therefore, is in the measuring and marking off required for each shingle course, and the necessity for applying separate layers of materials to the studs.

It is the purpose of the present invention to provide a shingle wall construction that is materially cheaper than the earlier constructions known in the trade.

It is a further object of the invention to provide a weatherwall construction that does not require skilled labor to apply.

Still another object of the invention is to provide a weatherwall structure and method which require a minimum of measurements by labor during application, and in which it is necessary only to align the first shingle course, each succeeding course being automatically aligned therefrom without further measurement.

Another object of the invention is to provide a weatherwall construction which has a shadow-line effect, thus eliminating the flat look that is one of the major drawbacks of shingle construction from an architectural design viewpoint.

A further object of the structure of the invention is to materially reduce loss from breakage during application.

Another object of the invention is to provide a weatherwall construction which employs only a wood nailing strip and standard nails, thus eliminating the expensive metal parts and fastenings used in known weatherboarding systems wherein the covering is formed of multiple composite shingle units applied directly to a studding frame.

Anothed object of the invention is to provide a weatherboarding construction which has improved waterproofing and insulating qualities, and a low coefficient of heat transmission, and which applies both insulation and finished surface in one operation, thus eliminating the costly and usual practice of applying waterproofing, insulation and finished surface in separate layers.

Another object is to provide a weatherboarding which

can, if desired, be applied in a single application working progressively from the bottom to the top of the framing, without successive application of separate sheathing, paper and shingle layers.

A further object of the invention is to provide a construction wherein replacement of broken shingles is materially simplified.

With the above and other objects in view as will be presently apparent, the invention consists of certain novel details and combinations of parts hereinafter fully described, shown in the accompanying drawings, and particularly claimed.

In the accompanying drawing,

FIG. 1 is a fragmentary elevational view of a wall construction employing asbestos shingles in the method and structure of the invention;

FIG. 2 is a fragmentary cross-sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is a fragmentary elevational view of a wall construction employing wood shingles and using applicant's improved structure and method;

FIG. 4 is a fragmentary cross-sectional view taken on line 4—4 of FIG. 3; and

FIG. 5 is a fragmentary perspective view of the nailing strip which is the key to the improved construction.

In the drawings, the reference numeral 10 is applied to the spaced studs of the standard framing construction.

The key to the improved construction is the nailing or furring strip 11 best shown in the enlarged view of FIG. 5. The top face 12 and back face 13 of the strip 11 intersect at 90°. The front face 14 is slightly inclined, as shown, the taper being outwardly from top to bottom. A rabbet 15 is cut from the lower and outer corner of the strip and the back wall 16 of the rabbet is slightly inclined, preferably substantially parallel to face 14, as will appear from the drawing and from the relationship of the several courses of shingles and insulation units with each other and with the strips, as further described hereinafter. The width of the rabbet 15 may vary according to the thickness of the shingle and insulation units.

The nailing strips 11 are fastened to the studding 10 at spaced intervals by nails. The lowermost strip is applied first and this is accurately aligned and leveled relative to the framing. By means of a template the succeeding strips 11 are then spaced and fall automatically into alignment. The strips may be applied to the entire framing wall at once, or may be applied as the work progresses upwardly. The spaced strips are basic to both types of shingle.

In FIGS. 1 and 2 there is shown the use of a standard 12 x 24 asbestos shingle 18. An insulation backing panel 19 is place behind the shingle, the height of the panel being slightly less than that of the shingle. These panels 19 are positioned with their upper edges in the rabbet 15, and may be secured to the studding by nails 20. The shingles 18 are then placed with their edges in the rabbets 15 and fastened at their base by nails 21. The upper edges of the insulation panel 19 and shingle 18 are backed at least substantially continuously by the underlying faces 16 of the rabbets 13 of the respective strips and are securely held thereagainst by the lower edges of the next shingle course without fastenings. This arrangement eliminates any requirements for special nails, or for any head nails or fastenings, and, of course, results in an inexpensive construction easy to lay up. The construction has the paramount advantages of being strong, rigid, tightly insulated, and weather-tight, with the chances of shingle breakage reduced to a minimum. The problem of asbestos shingles warping, curling, and pulling the nails through a substitute, composition type sheathing is also eliminated. These advantages are further en-

hanced by the at least substantially continuous backing up of the shingles by the insulation panels, insuring that there will be no soft or weak spots on the shingle wall.

In FIG. 2 the upper end of the view discloses with clarity the ease with which a broken shingle may be replaced. It is only necessary to withdraw the base nail 21 and slip the shingle 18a into place, as indicated by the arrow. The base nail 21 is then replaced. It will be noted that there are no hidden fastenings which need be removed for replacement purposes. Also, by reason of this construction the insulation panels 19 may, if desired, first be applied in mass and then the shingles 18 slipped into place and fastened as shown.

FIGS. 3 and 4 of the drawings show the use of beveled wood shakes or shingles 22. Because of the taper of the shake, it is preferable to form the rabbet 15 at the thickness of the insulation panel 19 and place the top end of the shake over the outer face of the nailing strip 11; the shakes are at least substantially continuously backed by the insulation panels, as in the construction involving asbestos shingles described above. The shakes may be aligned by placing their top edges even with the top edge of the nailing strip.

As in the case of the asbestos shingle, replacement shingle 22a may be easily inserted by removing the base nail 21 of the damaged shingle and the shingle immediately above, no hidden fastenings being involved.

It will be observed that in each type of shingle the insulation strip 19 causes the shingle to be spaced at its base from the shingle beneath. This forms a heavy shadow-line and adds depth to the appearance of the wall. In addition, in each embodiment disclosed, a portion of the back side of the upper edges of each course is mated or abutted securely to at least the forwardly facing surface of the downwardly and forwardly opening rabbet 15 by having the back side of the lower edge of a following course firmly mated to the front face at the upper edge portion of the shingles of the particular course. Also in each embodiment, the upper edge of at least the insulating layer of each course abuts against the downwardly facing portion of the downwardly and forwardly opening rabbet and is secured thereagainst by the next following course and by the fasteners 21, which prevent sagging of the insulating layer. Thus, in each embodiment, the upper portion of each course is held securely against the downwardly and forwardly facing abutment portions, 15 and 16, respectively, defining the generally downwardly and forwardly opening rabbets in the lower and forward portions of of the furring strips, thereby preventing rattling and wind and water leakage through this joint area.

While the preferred embodiment of this invention has been herein described, it is nevertheless to be understood that certain modifications may be made therein without departing from the spirit and scope of the invention as claimed.

What is claimed is:

1. In a weatherboarding for the vertical studs of a building frame, a plurality of spaced nailing strips secured to said studs transversely thereof, each of said strips having a downwardly and forwardly opening rabbet defined by wall portions providing generally downwardly and forwardly facing surfaces, and a plurality of courses of overlapping weather units placed over said studs and strips, each of said units comprising an inner insulation layer and an outer shingle backed up at least substantially continuously thereby, each unit course having an upper edge portion in engagement with the downwardly facing surface of the rabbet of a nailing strip, and each unit course having lower edge portions extending below and outwardly of the rabbet of a subjacent strip, the back sides of the lower edge portions of each course and the downwardly and forwardly opening rabbet of the strip subjacent the lower edge portions of a course defining therebetween a groove in which said lower edge portions securely hold the top edge portions of the next lower unit course against at least the outwardly facing surface of said rabbet.

2. In a weatherboarding for the vertical studs of a building frame, a plurality of spaced nailing strips secured to said studs transversely thereof, each of said strips having a downwardly and forwardly opening rabbet defined by wall portions providing downwardly and forwardly facing portions in the lower and forward portion of each strip, and a plurality of courses of overlapping weather units placed over said studs and strips, each of said units comprising an inner insulation layer and an outer shingle, the top edge of said insulation layer engaging the downwardly and forwardly opening rabbet of a nailing strip and being at least substantially continuously backed up thereby, and the top edge of said shingle overlying the face of the same strip and being in alignment with the top edge of said strip, the said nailing strip thereby serving as a nailing guide for the course of units in engagement therewith.

3. In a weatherboarding for the vertical studs of a building frame, a plurality of spaced nailing strips secured to said studs transversely thereof, each of said strips having a downwardly and forwardly opening rabbet defined by wall portions providing generally downwardly and forwardly facing portions in the lower and forward portions of said strip, a plurality of courses of overlapping weather units placed over said studs and strips, each of said units comprising an inner insulation layer and an outer shingle, the top edge of said insulation layer of each unit engaging the downwardly and forwardly facing portions of the downwardly and forwardly opening rabbet of a nailing strip and the top edge of said shingle overlying the forwardly facing portion of the same strip, and the lower edge of each unit course extending below and outwardly of the rabbet of a subjacent strip, the back side of the lower edge of each course and the rabbet of its subjacent strip defining therebetween a groove in which the top edge of the next lower unit course is retained and at least substantially continuously backed up and supported by a forwardly facing portion of the downwardly and forwardly opening rabbet.

4. A building wall construction comprising spaced studs, a plurality of spaced furring strips secured to said studs transversely thereof, without sheathing board between said strips and said studs, each of said strips having a downwardly and forwardly opening rabbet defined by wall portions providing generally downwardly and forwardly facing portions in the lower and forward portion of said strip, a plurality of courses of weather units overlying said strips transversely of said studs and in overlapping relation with each other, said weather units comprising outer shingles backed up at least substantially continuously by inner slabs of insulation of the composition sheathing board type, the upper edge of the insulation slab of each course unit being received in the rabbet of one of said strips against its downwardly facing portion, and said upper edge being at least substantially continuously backed up by the forwardly facing portion of one of said strips and in turn at least substantially continuously backing up an upper portion of the shingle of the same course, said upper portions of said insulation slabs and shingles being overlapped by the butt edges of both the insulation slabs and shingles of the next higher course and being held thereby securely in said downwardly and forwardly opening rabbet without the requirement of head nails or fasteners, the units of said next higher course being secured adjacent their butts to the subjacent strip.

5. A building wall construction comprising spaced frame members, a plurality of spaced furring strips secured to said frame members transversely thereof, and a plurality of courses of weather units secured to said strips transversely of said frame members and in overlapping relation with each other, said courses of weather

units comprising outer shingles and an inner layer of insulation, each of said strips having a downwardly and forwardly opening rabbet defined by downwardly and forwardly facing wall surfaces in the lower and outer portion of said strip, the portion of the insulation layer adjacent the upper edge of each course unit being backed up at least substantially continuously by and held securely against the forwardly facing rabbet surface of one of said furring strips by the lower portion of the insulation layer of the next overlapping course bearing against the overlapped unit.

6. A building wall construction comprising spaced studs, a plurality of spaced furring strips secured to said studs transversely thereof, without sheathing board between said strips and said studs, and a plurality of courses of weather units secured to said strips transversely of said studs and in overlapping relation with each other, said courses of weather units comprising outer shingles backed up at least substantially continuously by an inner layer of insulation, each of said strips having a rabbet opening in the lower and outer corner thereof defined by downwardly and forwardly facing rabbet surfaces, the portion of the insulation layer adjacent the upper edge of each course unit being backed up at least substantially continuously by and held securely against the forwardly facing rabbet surface of one of said furring strips by the next overlapping course and supported by the forwardly facing rabbet surface against distortion or breakage and in weather-tight relation thereto and being held securely thereagainst by the abutting lower edge portions of the next overlapping course, thereby eliminating the need for head nails or fasteners and sheathing as conventionally laid up, while at the same time providing a fully sheathed and insulated, strong, rigid weather-tight easily constructed wall.

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