March 21, 1950 C. F. HUMBLE 2,501,221

COMPOSITION SHAKE PANEL

Filed Oct. 2, 1948 2 Sheets-Sheet 1

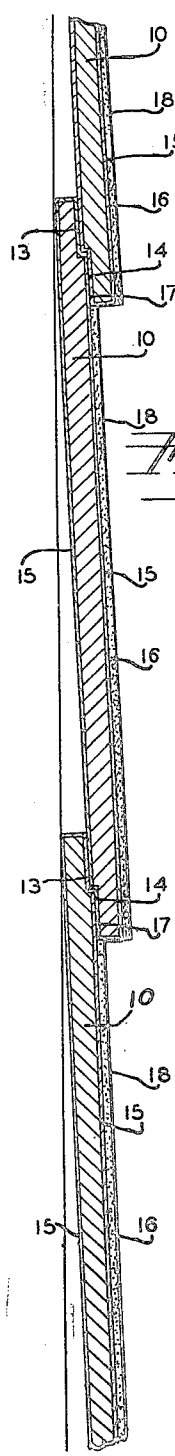


Fig 6

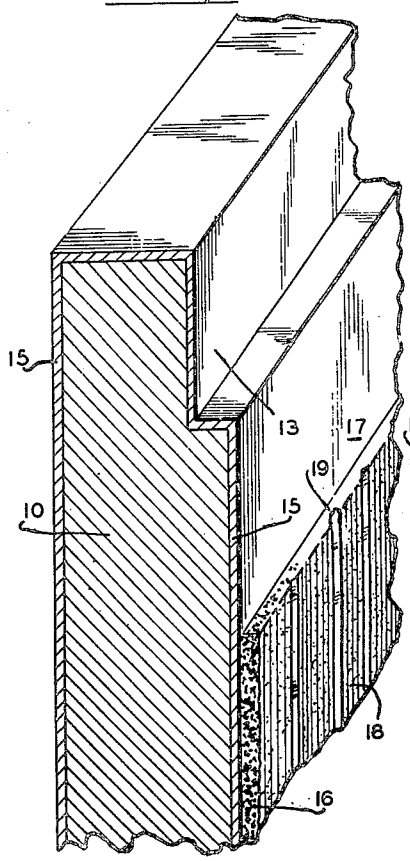


Fig 2

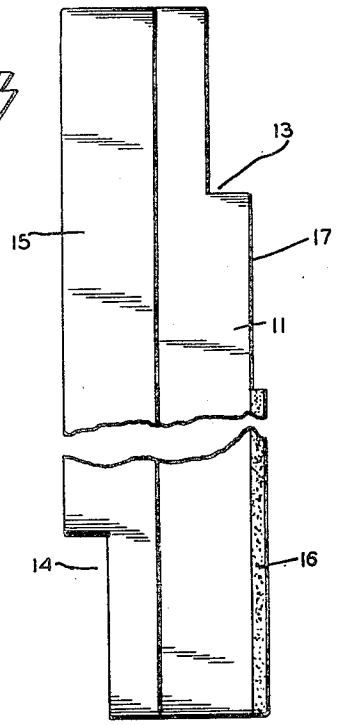


Fig 3

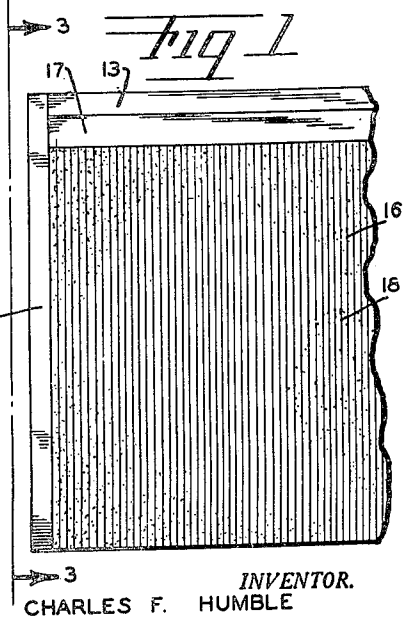


Fig 1

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Fig 5

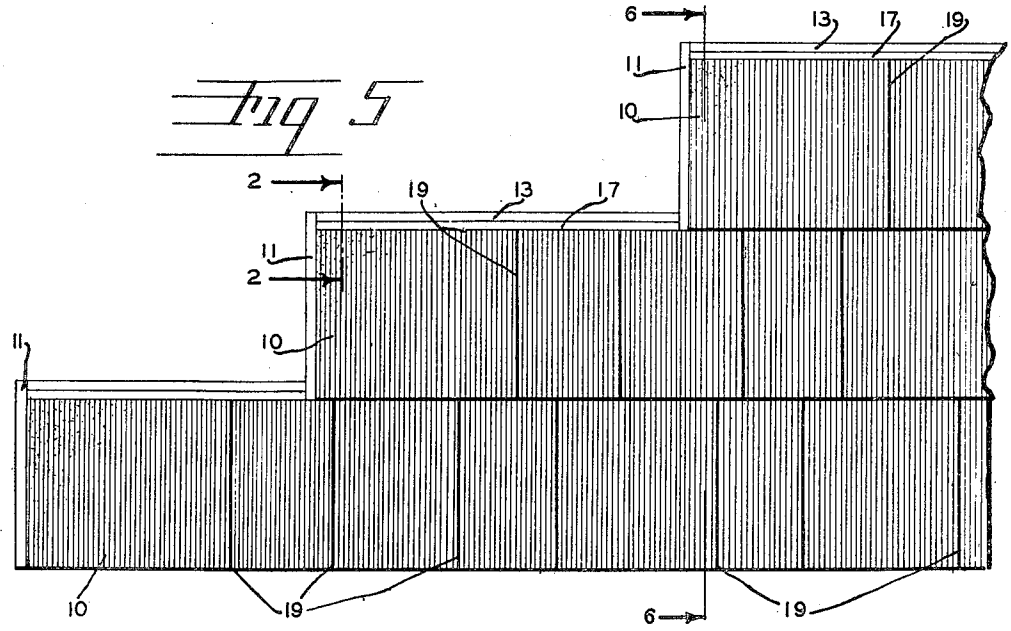


Fig 7

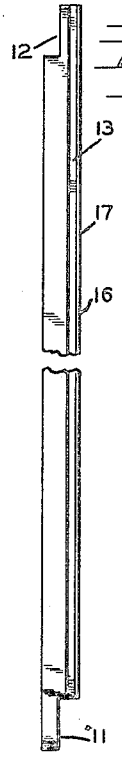
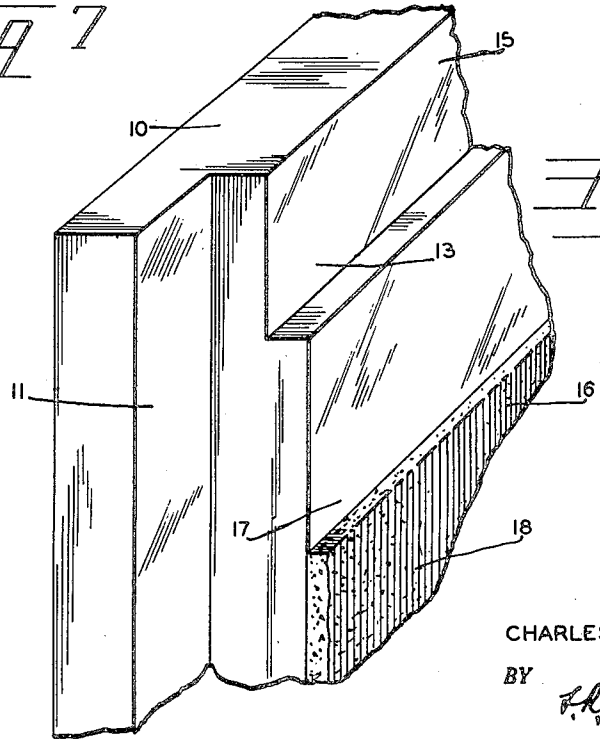


Fig 4



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COMPOSITION SHAKE PANEL

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5 Claims. (Cl. 20—5)

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This invention relates in general to siding or surfacing for exterior walls of building structures, and, more specifically, to external siding of the type comprising a plurality of rigid water proof prefabricated and identical sections adapted to be mounted in complementary relationship so as to constitute a complete exterior wall surface.

In particular this invention relates to a prefabricated exterior wall panel of the type above mentioned which will simulate the appearance of a shake-covered wall surface.

One of the objects of this invention is to provide an improved fabricated exterior wall surface panel which will be impervious to moisture while still retaining the insulating properties of modern wall boards.

Another object of this invention is to provide an improved exterior wall panel which will not only have a surface finish giving the general appearance of a shingle or shake surface, but, unlike other prefabricated siding materials which attempt to achieve a similar effect, will actually provide for the horizontal rows of lapped boards characteristic of shakes and shingles instead of merely simulating such lapped surfaces.

A further object of this invention is to provide an imitation shake panel especially adapted to form an improved horizontal lapped joint with a companion panel in such manner that the resulting lapped joint will constitute a tighter and more weather-proof seal than is obtainable with actual lapped shakes or the like.

An additional object of this invention is to provide an improved prefabricated panel which will be strong and durable and simple and easy to use in any exterior wall construction.

The manner in which these objects and other advantages are attained, the manner in which my improved imitation shake panel is made, and the manner in which the panel is used in constructing the desired wall surface, will be explained in the following brief description. In this description reference is made to the accompanying drawings in which:

Fig. 1 is a front elevation of one end portion of my panel;

Fig. 2 is an enlarged fragmentary sectional perspective view taken on line 2—2 of Fig. 5;

Fig. 3 is an enlarged side or end elevation of the panel taken from the left of Fig. 1 as indicated by the line 3—3 of Fig. 1;

Fig. 4 is a corresponding fragmentary perspective view of the upper portion of the panel taken from the same end or side;

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Fig. 5 is a front elevation of the face view of a portion of three panels in position on a wall;

Fig. 6 is an enlarged fragmentary vertical section taken on line 6—6 of Fig. 5; and

Fig. 7 is a top plan view of a panel.

The body 10 (Fig. 2) of my panel is rectangular and is formed of wall board, such as the fiber insulating wall boards which are now being extensively used for inside walls and which are available on the market under such trade names as "Fir-Tex," "Celotex" and the like. While fiber insulating boards of various thickness and size may be employed in my invention, I prefer to use a board of approximately one-half inch in thickness, about fifteen inches in height or slightly more than the customary exposed length of the shake surface on a shake-covered exterior wall, and any convenient panel width, as for example four feet.

One of the side edges of the panel body is formed with a recess 11 (Figs. 4 and 7) in one face and the other side edge has a corresponding and similar recess 12 in the opposite face. Both recesses are of equal depth, thus the depth being approximately equal to ½ of the thickness of the body portion, thus for example, the depth of each recess being approximately ¼ inch. The purpose of these corresponding recesses or rabbets at the side edges, as will be apparent, is to provide overlapping flush joints along the side edges between adjacent panels when the panels are set in place on the wall.

The top and bottom edges of the panel body are also formed with opposite recesses or rabbets 13 and 14 respectively (Fig. 3). These recesses are of less depth than the recesses 11 and 12 at the sides and preferably when my panel is made in the thickness above mentioned, the recesses 13 and 14 will be only approximately ½ the depth of the recesses at the side and thus will have a depth of approximately ¼ of the thickness of the panel body, for example, ⅛ inch.

When the panel body 10 has been formed with the four edges recessed or rabbeted as above described, the body is given a complete water-proof coating in a bath of hot, quick-drying asphalt. Such coating over the entire body is indicated by the reference character 15 in the drawings. It it important in the carrying out of my invention not only that this water-proof coating cover the entire surface of the panel body 10, including both faces and all edge surfaces, but also that this water-proof asphalt coating be confined to the surface and that the coating operation be done with a quick-drying asphalt, for example, with a

steam-refined quick-drying asphalt, and that it take place in a sufficiently short period of time so that the impregnation of the panel body by the asphalt will be limited to a very slight distance in from the surfaces.

One of the faults I have found with other wall boards which have been prefabricated for external wall surfaces is that apparently it has been considered necessary to have such external wall board entirely impregnated with water-proof asphalt or similar compounds. Such complete impregnation, by filling up the interstices in a fibrous wall board causes a substantial loss in the insulating value of the wall board. On the other hand if the water-proof coating is properly applied in the manner I have described, the high insulating property of the fiber board body of the panel will be retained, and at the same time since the water-proofing has covered the entire surface, the treated body 10 of my panel will be sufficiently impervious to moisture both from the outside or the inside of the wall. This high moisture-proofness, together with a high insulating value are important features in my external wall panel.

When the water-proof coating 15 has become hard and dry the coated panel body is given a thick second coating 16 with a heavier, slower drying asphalt. This second coating 16, for which an air-blown higher melting point asphalt is preferably used, is confined to the front face of the panel and does not extend over the side recess 11 or over the top recess 13. Furthermore, a top horizontal marginal strip 17 is left at the top of the front face of the panel below the recess 13 from which this second coating 16 is also excluded. The reason for this will become apparent later.

While this second coating 16 is still soft, a covering of comminuted grit or granules of the desired color for the finished surface is applied to the second coating and pressed into the same. Finally this coated front face is brought into contact with an embossing roll or rolls by means of which lines 18 simulating the grain lines in a wooden shake, are formed in the grit-covered asphalt, and at the same time deeper and broader grooves 19, parallel to the side edges of the panel, being spaced preferably at irregular distances, simulating the vertical lines between adjacent shakes on a shake-covered wall, are pressed into this final coating. After this embossing has taken place the panel is thoroughly cooled by being subjected to cold water and/or cold air, whereupon the panel is ready for immediate use or shipment.

Figs. 5 and 6 illustrate the manner in which my panels are employed to provide the desired imitation shake surfacing. The panels are applied in horizontal rows, the panels in each row forming lapped flush joints with each other, by the overlapping rabbets 11 and 12 at the side edges, and the panels of one horizontal row being preferably staggered in relation to the panels of the horizontal row below.

The width of the marginal strip 17 along the top of the panel is made exactly equal to the width of the recess or rabbet 14 at the bottom of each panel. Consequently the bottom rabbets 14 of one row of panels will exactly cover the marginal strips 17 along the top of the next lower row of panels. The fact that the second coating of asphalt with its grit surfacing does not extend into the marginal strip 17, enables the under side of the bottom rabbet 14 of a panel in the next row to fit tightly against the opposed face of the marginal strip 17. This would not be the case if

the embossed and grit surface extended between these two opposed faces of the adjacent horizontal rows. Furthermore, this tight seal overlap between the horizontal rows is continued between the face of the top rabbets 13 and the rear face of the panels in the next row above. Thus, in effect, a double seal is provided at the overlapped butt joints of the imitation shakes. This is another important feature of my panel.

While an extensive overlap between the horizontal rows of panels could also be formed by omitting the top rabbet 13 and increasing the width of the marginal strip 17 and width of the bottom rabbet 14 by an amount equal to the width of the omitted top rabbet, this would be less desirable since such a wide rabbet at the bottom of the panel would weaken the panel and present the possibility that such extra wide bottom rabbet might crack or break off from the panel body if subjected to excessive strain. Also, the stepped overlap formed with the rabbets 13 and 14 arranged as shown in Fig. 6 makes a better weather proof seal than an overlap confined to a single plane.

Thus my improved exterior wall panel not only simulates the exposed faces of shakes but also provides for the actual overlap resembling the butt overlap joints of shakes; and at the same time it provides an exceptionally tight and weather proof seal at such overlapped joints. As apparent, my wall panel is very easily and quickly mounted in position on the wall to be covered. Preferably it will be applied over an under surfacing of the customary sheathing. However, for cheaper or temporary building construction the panel may, if desired, be applied directly to the studding, and due to the moisture proofness, insulating quality, and tight joints provided, my panel will make a very satisfactory external wall even when applied directly to the studding for inexpensive building construction.

The limitation shake panel can of course be made in various sizes and thicknesses. The size and thickness which I have described is merely illustrative. Thus if larger, heavier shakes are to be imitated my panel would correspondingly be wider and thicker. The thickness of the panel body will of course be determined largely by the simulated shake butt thickness desired to be presented, the upper and lower rabbets being given that approximate thickness and the remaining body portion of the panel made sufficiently thicker to provide for suitable cooperating surfaces to constitute the double overlap joint for the simulated butts.

Various surfacing and water-proofing materials could be used in the formation of my panel and modifications could be made in its structure without departing from the principle of my invention. The particular materials mentioned I have found to be very satisfactory in the manufacture of my panel, but my invention is not to be understood as limited otherwise than as set forth in the claims.

I claim:

1. A composition shake panel including a sheet of fibrous insulating board having oppositely disposed rabbets extending from the rear and front faces at the head and butt edges respectively, said rabbets having the same thickness, the surface of said sheet entirely covered with a water-proofing coating, an outer heavy, shake-simulating surfacing on the outer exposed face of the panel, and a margin portion extending across the top of the front face of said panel, the width

of said margin portion corresponding to the width of said butt edge rabbet, said outer surfacing excluded from said margin portion, whereby when said panels are applied to a wall the butt rabbets of one horizontal row of panels will extend over said margin portions in the next lower row of panels and form weather tight butt joints having a double overlap.

2. A composition shake panel including a sheet of fibrous insulating board having oppositely disposed rabbets extending from the rear and front faces at the head and butt edges respectively, said rabbets having a thickness greater than half the thickness of said sheet, the surface of said sheet entirely covered with a water-proofing coating, said water-proofing confined to the surface portions of said sheet so as not to reduce extensively the insulating property of said sheet, an outer heavy, shake-simulating surfacing on the outer exposed face of the panel, and a margin portion extending across the top of the front face of said panel, the width of said margin portion corresponding to the width of said butt edge rabbet, said outer surfacing excluded from said margin portion, whereby when said panels are applied to a wall the butt rabbets of one horizontal row of panels will extend over said margin portions in the next lower row of panels and form weather tight butt joints having a double overlap.

3. An external wall panel of the character described comprising a rectangular sheet of fibrous insulating board of not less than ½ inch in thickness, having oppositely disposed rabbets extending from the rear and front faces at the head and butt edges respectively, said rabbets having a thickness of not less than ⅜ inch, oppositely disposed rabbets at the side edges of said sheet, said side rabbets having a thickness approximately equal to half the thickness of said sheet, the surface of said sheet impregnated with a water-proofing coating, said impregnated water-proofing confined to the surface portions of said sheet so as not to reduce extensively the insulating property of said sheet, an outer heavy, shake-simulating surfacing on the outer exposed face of the panel, said outer surfacing consisting of heavy water proof material with comminuted grit applied thereon and embossed with lines simulating shakes, and a margin portion extending across the top of the front face of said panel, the width of said margin portion corresponding to the width of said butt edge rabbet, said outer surfacing excluded from said margin portion.

4. An external wall panel of the character described comprising a rectangular sheet of fibrous insulating board of not less than ½ inch in thickness, having oppositely disposed rabbets extending from the rear and front faces at the head and butt edges respectively, said rabbets having the same thickness, oppositely disposed rabbets at the side edges of said sheet, said side

rabbets having a thickness approximately equal to half the thickness of said sheet, the surface of said sheet entirely covered with a water-proofing, quick-drying asphalt solution, an outer heavy, shake-simulating surfacing on the outer exposed face of the panel, said outer surfacing consisting of heavier, slower drying, water proof asphalt with comminuted grit applied thereon and embossed with lines simulating shakes, and a margin portion extending across the top of the front face of said panel, the width of said margin portion corresponding to the width of said butt edge rabbet, said outer surfacing excluded from said margin portion, whereby when said panels are applied to a wall the butt rabbets of one horizontal row of panels will extend over said margin portions in the next lower row of panels and form weather tight butt joints having a double overlap.

5. A composition shake panel comprising a rectangular sheet of fibrous insulating board of not less than ½ inch in thickness, having oppositely disposed rabbets extending from the rear and front faces at the head and butt edges respectively, said rabbets having the same thickness and a thickness approximately equal to that of a shake butt, oppositely disposed rabbets at the side edges of said sheet, said side rabbets having a thickness approximately equal to half the thickness of said sheet, the surface of said sheet impregnated with a water-proofing coating of quick-drying asphalt solution, said impregnated water-proofing confined to the surface portions of said sheet so as not to reduce extensively the insulating property of said sheet, an outer heavy, shake-simulating surfacing on the outer exposed face of the panel, said outer surfacing consisting of heavy water proof material with comminuted grit applied thereon and embossed with lines simulating shakes, and a margin portion extending across the top of the front face of said panel, the width of said margin portion corresponding to the width of said butt edge rabbet, said outer surfacing excluded from said margin portion, whereby when said panels are applied to a wall the butt rabbets of one horizontal row of panels will extend over said margin portions in the next lower row of panels and form weather tight butt joints having a double overlap.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
337,310	Crabbe	Mar. 2, 1886
1,202,770	Aycock	Oct. 31, 1916
2,078,039	Stoner	Apr. 20, 1937