

April 8, 1952

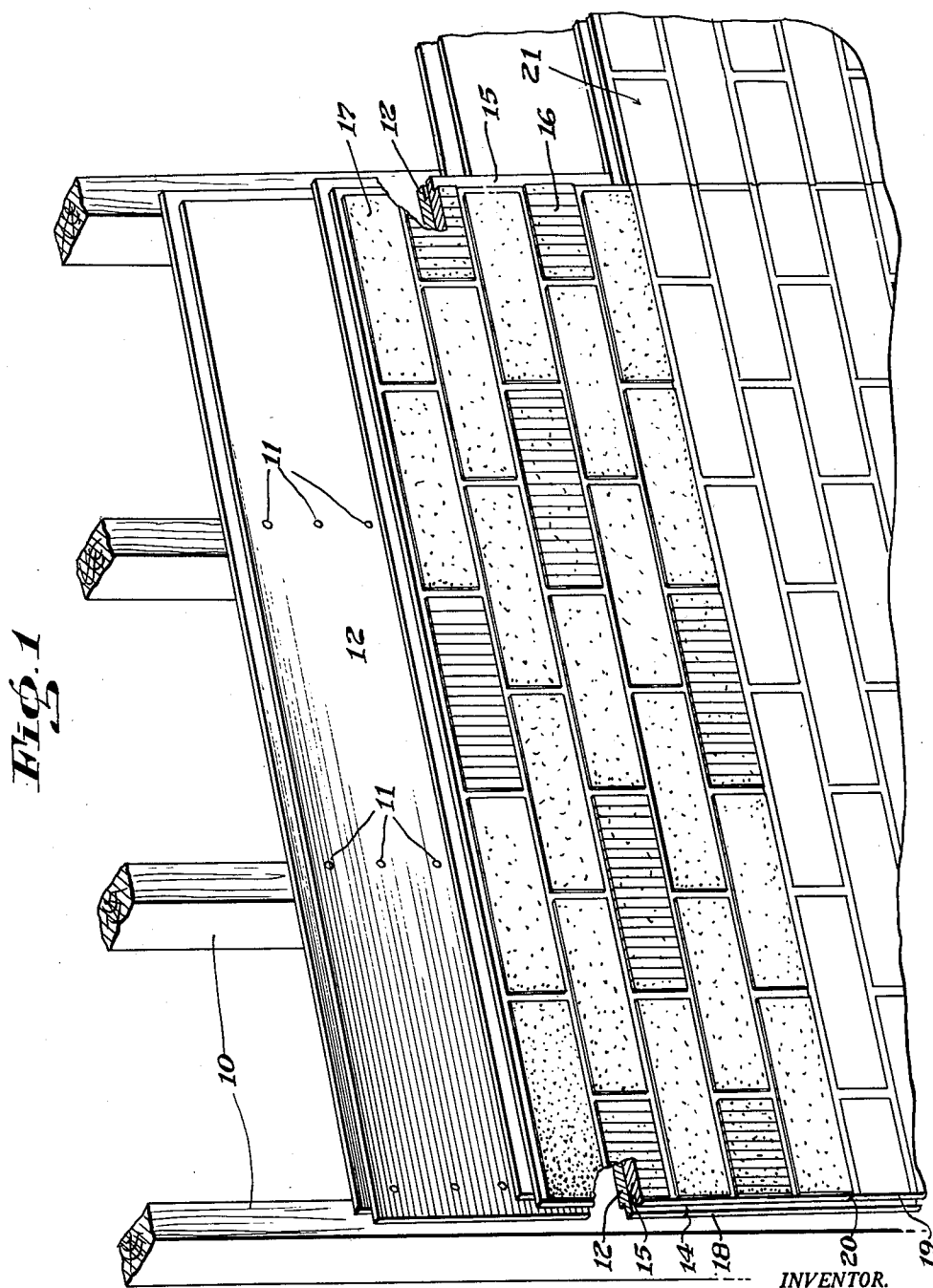
E. L. CHAMBERLAIN

2,592,244

BUILDING UNIT

Filed Oct. 22, 1948

2 SHEETS—SHEET 1



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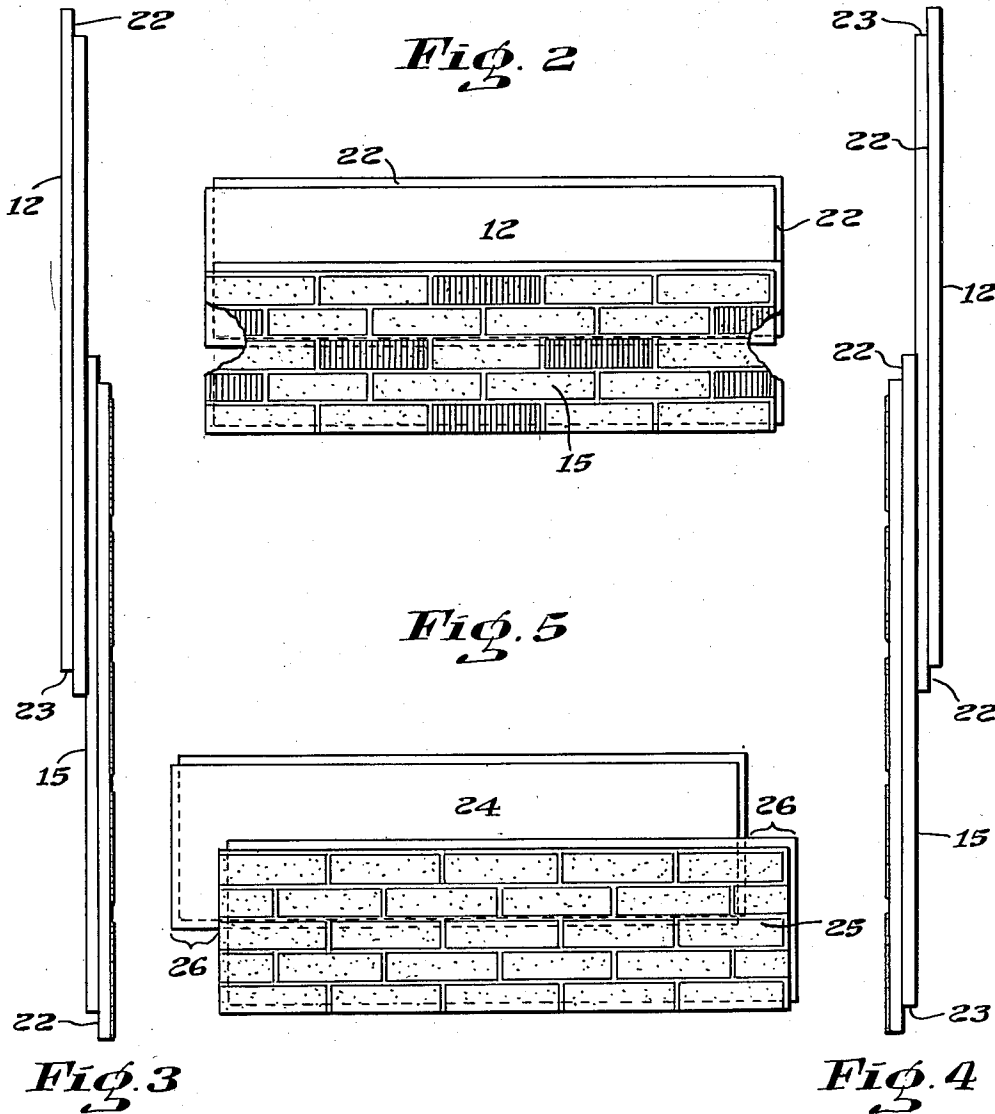
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BUILDING UNIT

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6 Claims. (Cl. 20-5)

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My invention relates to sectional building units particularly adapted for use in the formation of the exterior walls of frame constructions.

The invention aims to provide building units or panels which may be applied directly to the studs of the framework without intermediate sheathing. It further aims to provide units which may be easily and rapidly applied without damage thereto and which may be formed of a variety of materials.

A particular advantage of the panels of the invention resides in the fact that they allow for the concealment of the fastening means, normally nails, serving to secure them to the studding. Thus they will stay secure for a much longer period than conventional insulated siding panels, for example, which are fastened to the sheathing with a relatively large number of exposed nails, prone to become loosened from weathering in a comparatively short time with consequent displacement of the panel.

A panel constructed according to the invention comprises a rectangular base or back portion and an exposed or front portion, also rectangular in configuration, which stands in offset relation with respect to the base portion, the edges of both portions being rabbeted to the end that upon application of the panel it may be securely interlocked with adjacent panels. The exposed portion may be offset only vertically or both vertically and horizontally. Normally, the two portions represent two separate sections suitably fastened together in the desired relation, but it is possible, although not necessarily practicable, to form the panel from a single piece of material. Alternatively, the base and front portions of the panel may each be formed of two sub-sections which may be vertically and horizontally offset to provide shiplapped edges. I prefer that the rabbeting take the form of shiplapping regardless of the procedure followed in the construction of the panel, but in some cases other forms of interlocking lap may be indicated.

The panels may be manufactured using various materials and in various combinations. Preferably, I form the panel of sections of treated fiber board, because of the insulating and other desirable qualities of such board and its reasonable cost. However, a panel formed of a base sec-

tion of treated fiber board or plaster board, for example, and a face section of asbestos board, particularly cement-asbestos board, has considerable utility as do panels in which the face section is painted or covered with an asbestos sheet. Also, for some applications, it may be desirable to supply a panel in which the exposed face is of plastic or metal which may or may not be covered with a vitreous or other coating. A number of the advantages of the panel as constructed using cement-asbestos board for the face section derive from the fact that the panel can be secured without driving nails through the board. Thus, unlike conventional cement-asbestos siding, the panel does not rattle in the wind and breakage is relatively rare.

In the manufacture of the preferred panel, I shiplap both the longitudinal and transverse edges of two sections of fiber board and thereafter impregnate the sections with a suitable water-proofing substance, normally asphalt or other bituminous, resinous or oleoresinous material, such treatment serving to bind the surface fibers as well as to water-proof the surfaces of the sections. The section to constitute the front section of the completed panel is coated on its face side with a high melting point plastic substance, ordinarily high melting point asphalt, and mineral granules are embedded in the coating. A layer of adhesive, preferably hot asphalt, is applied to the lower half of one side of the other section, this section to be the back section of the completed panel, the layer extending over the entire longitudinal dimension of the section. Such section may be somewhat more rigid than the mineral surfaced section and may be of slightly reduced dimensions. The latter section, which may be ornamentized, as by stamping or embossing, is superimposed over the back section, with the mineral surfaced face exposed, and firmly bonded thereto in a manner such that the portion of the back section free of adhesive is not covered by the mineral surfaced section and such that the corresponding edges of the sections are in parallel. In case the mineral surfaced section is offset horizontally as well as vertically, the area of the back section exposed by the horizontal offset need not, of course, be coated with adhesive. In lieu of

an adhesive, nails or other fastening elements may be used to join the sections.

In applying the completed panel, the same is nailed to the studs through the portion of the back section not covered by the mineral surfaced section, the nailheads being subsequently concealed as the work proceeds by the mineral surfaced sections of one or more adjoining panels depending on whether the panels are applied in straight or staggered courses and on whether the sections of the panel are offset only vertically or both vertically and horizontally.

My invention will be better understood by reference to the accompanying drawings illustrating preferred forms thereof and in which:

Fig. 1 is a perspective view in elevation showing a panel as applied directly to studding and illustrating the interlocking of adjacent panels, portions of the panel shown in toto being cut out in order to better illustrate the rabbeting and the relationship of the two sections constituting the panel;

Fig. 2 represents a particularly preferred form of panel with the two sections offset vertically only;

Fig. 3 is a left end view of the panel of Fig. 2;

Fig. 4 is a right end view of the panel of Fig. 2; and

Fig. 5 is a modified form of panel wherein the sections constituting the panel are offset horizontally as well as vertically.

Referring now to Fig. 1, the numeral 10 denotes the studding to which the panel is secured by nails 11 driven through the back or unexposed section 12 which extends to a point 14 below the upper edge of front or exposed section 15. The latter section is provided with an ornamental facing simulating wire-cut and smooth surfaced brick, indicated by the numerals 16 and 17, respectively.

The lower edge of the back section 12 rests upon and interlocks with the upper edge of the back section 18 of the panel next below, the face of section 18 being covered by the ornamentized section 15. Similarly the lower edge of section 15 rests upon and interlocks with the upper edge of the ornamentized section 19 of the lower panel, this point being denoted by the numeral 20. In applying the panels it is obviously advantageous to work from bottom to top where concealment of the nails is desired.

Although, as indicated by the views afforded by the cut-out portions in Fig. 1, the panels in the preferred embodiment of the invention are formed of only two sections having suitably milled edges, it will be readily appreciated that each section may be constituted of two subsections bonded together in offset relation and the necessity for milling thereby avoided.

The panel, indicated generally by the numeral 21, which abuts the panel constituted of sections 18 and 19 is, of course, similarly shiplapped, the abutting edge conforming with the corresponding edge of the adjacent panel.

Referring now to Fig. 2 wherein the dotted lines delineate concealed edges and wherein like numerals denote like parts in Fig. 1, and to Figs. 3 and 4, it will be seen that the ornamentized section 15 is vertically offset with relation to the back section 12 to a degree equivalent to about one-half the width of the back section. Such degree of vertical offset is not critical, but represents the preferred construction. While the depth of the shiplapping is largely arbitrary, the extent of the cutting with relation both to the

edge of the section and the face of the section is always such as to provide for adequately firm joints. In the drawings, the cut from the edge is denoted by the numeral 22, that from the face by the numeral 23.

In the modification represented by Fig. 5, in which the back and front sections are numbered 24 and 25, respectively, the preferred vertical offset is the same as in the case of the most preferred form of the invention illustrated by the other drawings. The horizontal offset, i. e., the distance 26 may, with advantage, be slightly less than half the vertical offset, although this is not essential. The chief advantage of the horizontal offset is that it decreases the opportunity for any direct penetration of water through the joints between panels.

Obvious modifications which will occur to those experienced in this art are, of course, considered as embraced by my invention.

I claim:

1. A building unit comprising a substantially rigid, rectangular back portion and a rectangular front portion in vertically offset relation, said portions having rabbeted edges adapting the same for interlocking engagement with the corresponding portions of similar units, each sub-portion delineated by the rabbeting being vertically offset with relation to all of the other such sub-portions.

2. A building unit comprising rectangular front and back portions in vertically and horizontally offset relation, said portions having rabbeted edges adapting the same for interlocking engagement with the corresponding portions of similar units, each sub-portion delineated by the rabbeting being vertically and horizontally offset with relation to all of the other such sub-portions.

3. A panel for wall construction having a substantially rigid back section formed of asphalt-impregnated fiber board and a front section constituted of such board surfaced with a high melting point asphalt in which mineral aggregates are embedded, said sections standing in vertically offset relation and having shiplapped edges adapting the same for interlocking engagement with the corresponding sections of similar panels, each sub-section delineated by the shiplapping being vertically offset with relation to all of the other such sub-sections.

4. A panel for wall construction having a substantially rigid back section formed of asphalt-impregnated fiber board and a front section constituted of such board surfaced with a high melting point asphalt in which mineral aggregates are embedded, said sections standing in vertically and horizontally offset relation and having shiplapped edges adapting the same for interlocking engagement with the corresponding sections of similar panels, each sub-section delineated by the shiplapping being vertically and horizontally offset with relation to all of the other such sub-sections.

5. A panel for wall construction having a substantially rigid rectangular back section of asphalt-impregnated fiber board and a rectangular front section constituted of such board surfaced with a high melting point asphalt in which mineral aggregates are embedded, said sections being vertically offset, each being constituted of two sub-sections vertically and horizontally offset to form shiplap edges, either sub-section of either section being vertically offset relative to either of the sub-sections of the other section.

6. A panel for wall construction having a substantially rigid rectangular back section of asphalt-impregnated fiber board and a rectangular front section constituted of such board surfaced with a high melting point asphalt in which mineral aggregates are embedded, said sections being vertically offset, each being constituted of two sub-sections vertically and horizontally offset to form shiplap edges, either sub-section of either section being vertically and horizontally offset relative to either of the sub-sections of the other section.

ELI L. CHAMBERLAIN.

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