

Aug. 14, 1945.

H. C. KOCH

2,382,234

BUILDING SIDING MATERIAL

Filed July 8, 1943

3 Sheets-Sheet 1

Fig. 1.

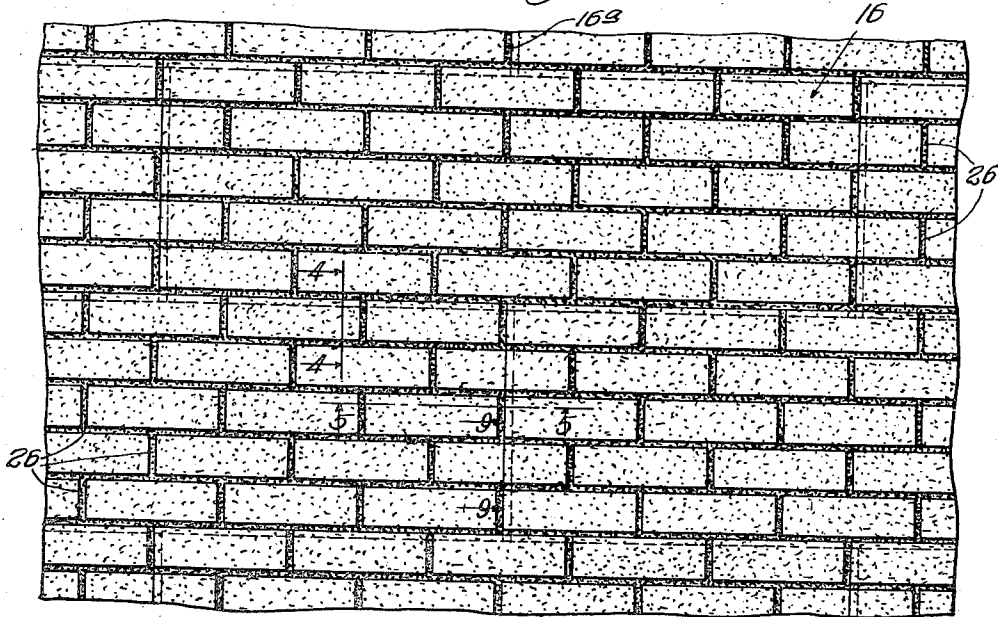


Fig. 2.

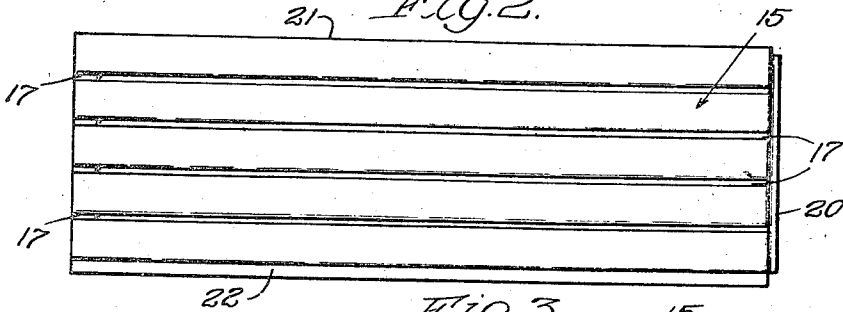


Fig. 3.

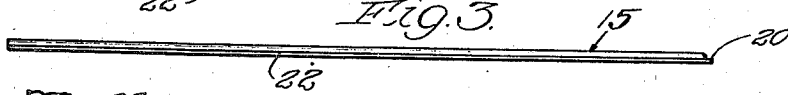


Fig. 4.

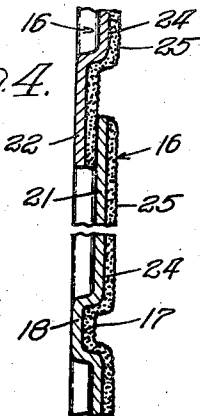
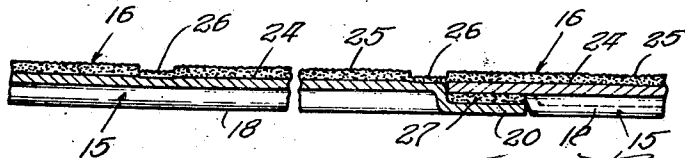


Fig. 5.



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Fig. 6.

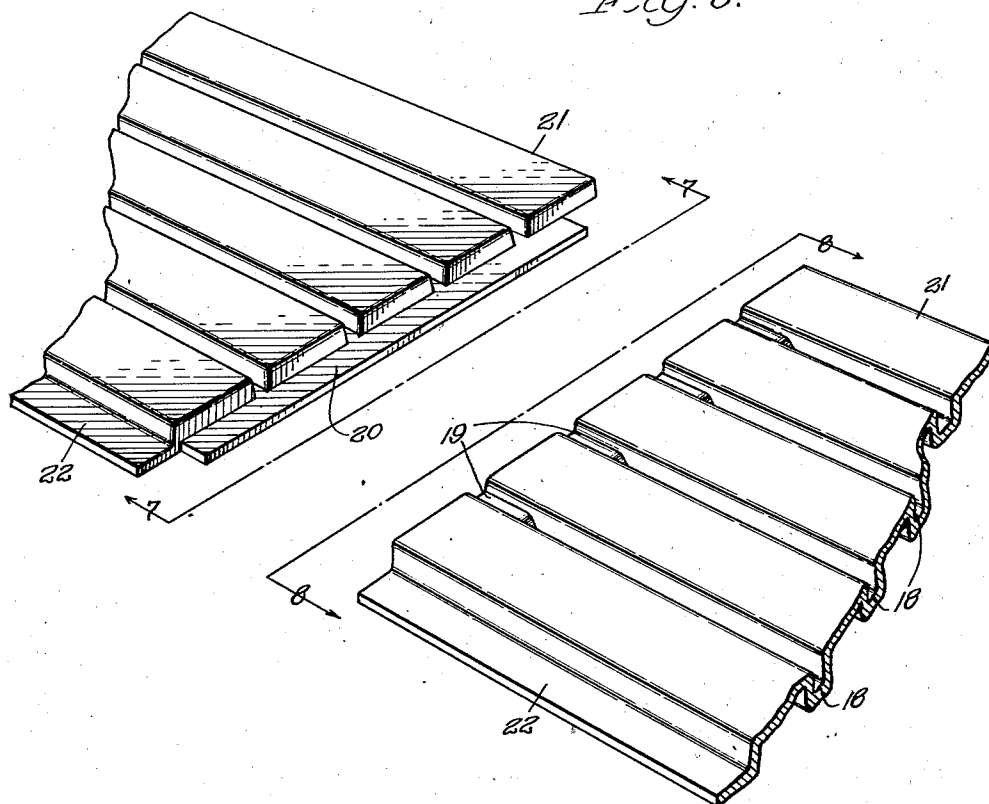


Fig. 7.

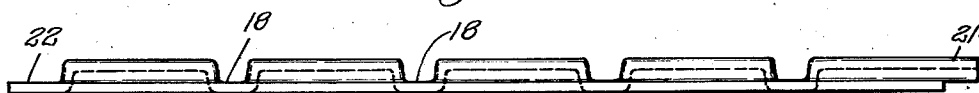


Fig. 8.

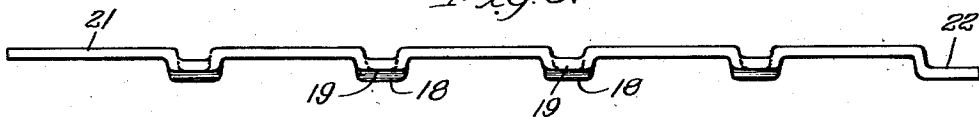
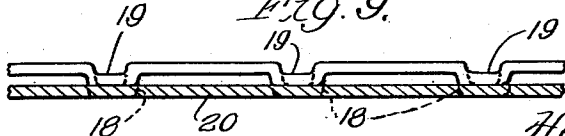


Fig. 9.



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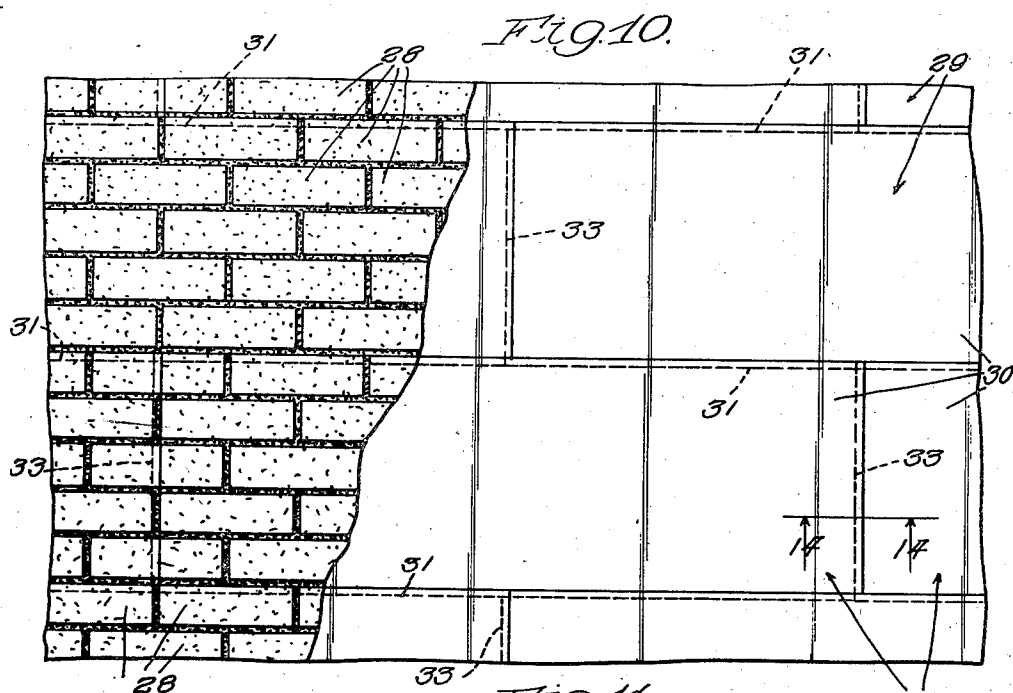
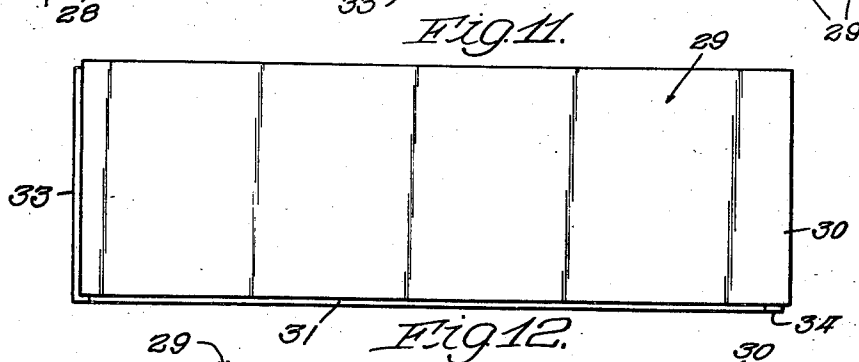
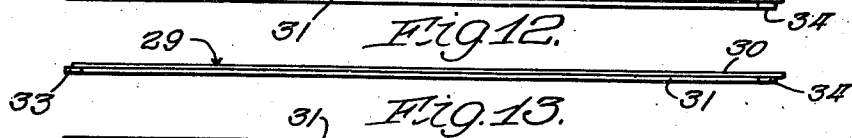
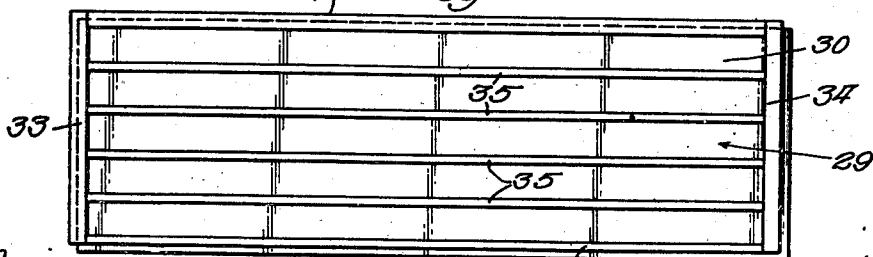
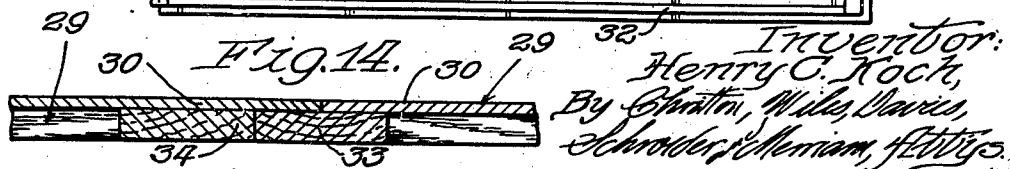
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BUILDING SIDING MATERIAL

Filed July 8, 1943

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## UNITED STATES PATENT OFFICE

2,382,234

## BUILDING SIDING MATERIAL

Henry C. Koch, Chicago, Ill., assignor to Manufacturers Specialty Company, a corporation of Delaware

Application July 8, 1943, Serial No. 493,840

8 Claims. (Cl. 20—5)

My invention relates more particularly to building siding material provided in the form of panels or boards grouped together to cover the surface to be provided with siding and which may or may not, as desired, present an exposed surface pattern, as for example, a pattern simulating brick work.

Certain of my objects are to provide an inexpensive construction of such a panel; to provide for the effective thermal insulating of the panel from the surface to which it is applied in use; to provide a panel of such construction that when a plurality thereof are grouped together to form the siding, the panels will be in the same plane and the siding formed thereby will be devoid of bulges or warped portions causing the siding surface to present the same appearance as would be the case were the siding not formed in sections.

Referring to the accompanying drawings:

Figure 1 is a face view of a grouping of similar brick-work-simulating building siding panels constituting an embodiment of my invention, the edge portions of the panels lapped by adjacent panels being represented by dash lines.

Figure 2 is a front face view of the base of one of the similar panels shown in Fig. 1.

Figure 3 is an edge view of the base of Fig. 2.

Figure 4 is a broken fragmentary sectional view through one of the similar horizontal joints between adjacent ones of the panels of Fig. 1, the section being taken at the line 4—4 on Fig. 1 and viewed in the direction of the arrows and enlarged.

Figure 5 is a broken fragmentary sectional view through one of the similar vertical joints between adjacent ones of the panels of Fig. 1, the section being taken at the line 5—5 on Fig. 1 and viewed in the direction of the arrows and enlarged.

Figure 6 is a broken perspective view of the two of the panels of Fig. 1, comprising one of the similar horizontal courses of the siding, each panel being partly broken away at one end and the panels being shown as in related, but separated, position.

Figure 7 is an enlarged edge view taken at the line 7—7 on Fig. 6 and viewed in the direction of the arrows.

Figure 8 is an enlarged edge view taken at the line 8—8 on Fig. 6 and viewed in the direction of the arrows.

Figure 9 is a fragmentary enlarged sectional view taken at the line 9—9 on Fig. 1 and viewed in the direction of the arrows.

Figure 10 is a face view of a grouping of brick-

work-simulating building siding panels constituting another embodiment of my invention, the edge portions of the panels lapped by adjacent panels being represented by dash lines and portions of the grit surfacing of certain of the panels being removed.

Figure 11 is a front face view of the base of one of the similar panels shown in Fig. 10.

Figure 12 is an edge view of the base of the panel.

Figure 13 is a rear face view of the base of the panel; and

Figure 14, an enlarged fragmentary sectional view through one of the similar vertical joints between adjacent ones of the panels of Fig. 10, the section being taken at the line 14—14 on Fig. 10 and viewed in the direction of the arrows.

The drawings illustrate embodiments of the invention wherein the panels comprise base or board portions of any suitable material such as hereinafter described, water-proofed and provided on the faces thereof which would be outermost in a siding construction formed of these panels, with a tacky water-proof coating such, as for example, a bitumen composition as commonly used in grit coated roofing or siding material, to which grit, to provide a desirable pattern, such as, for example, a pattern simulating brickwork, is applied.

In accordance with the disclosure in Figs. 1-9 inclusive, the base indicated at 15 of each of the several panels represented at 16 from which the wall siding is to be produced and which would be applied to the wall surface (not shown) of a building to be covered, is provided of rectangular form corrugated lengthwise along parallel equidistantly spaced lines to cause the base 15 to present grooves 17 and opposed ribs 18 in its front and rear faces, respectively, parallel to each other and with the upper and lower edges of the base 15.

The grooves 17 extend completely through the opposite ends of the base 15 and are of a depth equal to substantially twice the thickness of the solid portions of the base 15; namely, twice the thickness of the sheet from which, by way of example, the base 15 is formed by a pressing operation, except at one end of the base where the ribs 18 are flattened as represented at 19 to cause these ends of the grooves 17 to be of substantially the same depth as the thickness of the sheet from which the base 15 is made.

In the panel construction shown the base 15 presents at the end thereof opposite that at which the ribs 18 are flattened as stated, a flange 20 and at its upper and lower edges flanges 21 and 22, the flanges 20 and 22 and the ribs 18, except

at the flattened portions 19 of the latter, being in the same plane and the flange 21 being forwardly offset from the flanges 20 and 22 a distance equal to the thickness of the sheet from which the base 15 is formed, the flange 22 being shown as of somewhat greater width than the flange 20 and the flange 20 reaching from adjacent the inner edge of the flange 22 to a point midway between the longitudinal edges of the flange 21, there being provided a notch 23 at one corner of the base 15.

In accordance with the showing wherein the finished panel presents on its outer face a pattern simulating brickwork, the entire outer surface of the base 15 is covered by a coating 24 of adhesive such as, for example, a bitumen composition as above referred to, covered at the surfaces thereof exposed to the weather in panel assembly, by a layer of grit represented at 25, pressed into the coating 24 and adhering thereto over such exposed surfaces. The grit 25 is further locally pressed into the coating 24 (the coating being hot) to become covered thereby along lines or stripes 26 simulating mortar lines delineating the brick pattern which the panel is to display, the coating 24 and with it the grit 25 at the grooves 17 being preferably depressed into these grooves as shown.

It is contemplated that in covering a wall surface a plurality of the panels shown be assembled together in matching relation to produce a continuous uniform design, the panels of alternate horizontal rows thereof being staggered relative to the panels of the rows immediately above and below them, as indicated of the upper panels in Fig. 1 wherein the two upper panels, portions of which are broken away, are shown as meeting midway between the ends of the panel beneath them as indicated at 16.

The provision of the panels of the form shown and described provide for ship-lap joints between adjacent panels in the grouping thereof as shown and described; the lower flanges 22 of the panels being lapped by the flanges 21 of the panels immediately therebelow with a portion of the coating 24 interposed between these flanges as shown in Fig. 4 and the end flanges 20 of each panel being lapped by those ends of the adjacent horizontally aligned panels which are opposite those ends having the flanges 20.

As will be understood, the grouping of the panels as shown and described causes the portion of the coating 24 on the flanges 22 to be disposed between these flanges and the flanges 21 overlapping them and thus the exposed surfaces of the corrugated portions of adjacent panels at the horizontal joints are in the same plane; and furthermore causes the exposed surfaces of the corrugated portions of adjacent panels at the vertical joints to be in the same plane as at the horizontal joints. The spaces provided at intervals between the corrugations and the underlying flange 20 and alternating with the flattened portions 19 of the ribs 18 may be sealed as for example, by filling them with any suitable cement represented at 27 in Figure 5 of the one of these spaces shown therein, it being noted that the flattened portions 19 of the ribs 18 rest directly against the flange 27, a film of the coating 24 being interposed, if desired, between the flange 20 and the flattened portions 19 of the ribs 18.

The preferred way of securing the panels in place in grouped condition contemplates driving nails through all of the lapping parts of adjacent panels and into the structure at the rear thereof

and of which the grouped panels form a covering and also, if desired, at those of the grooves which are between the lapping parts which insures the holding of the panels of the group flatwise at their flanges 20 and 22 and the ribs 18 against the structure being covered, affording to the siding structure the same even appearance (free from buckles or warpage) as would be presented by a unitary sheet as distinguished from a panel assembly. Furthermore by virtue of the corrugated feature described, whereby air spaces are afforded between the panels and the wall structure to which they are applied, these air spaces being closed in the panel assembly as shown and described, the wall covered by this siding is thermally insulated to a high degree and the panels, by reason of the strength afforded by the corrugated feature, may be made from much less material than would otherwise be necessary thereby saving in cost and weight.

The base 15 may be made of any suitable material such as, for example, dry felt, fiber board, insulation board, plywood or plaster board. A highly desirable material from which to make the base which may or may not, as desired, have applied thereto any suitable water-proofing material, comprises two sheets of Kraft paper with a layer of bitumen composition interposed therebetween and united thereto as by means of heat and pressure; the blank from which the base is to be formed being pressed in heated condition into corrugated form in which form, upon cooling, it becomes set.

According to the embodiment of the invention shown in Figures 10-14 inclusive, the panel (a grouping of a plurality of which is shown in Figure 10 to simulate a brickwork wall, the panels being represented at 28) is formed of a base 29 comprising a rectangular sheet 30 of any suitable material such as, for example, as explained, of the base 15 to a face of which at its margins, slats 31, 32, 33 and 34 of any suitable material, as for example, wood, disposed in a rectangular arrangement and rib-forming members 35 shown as extending parallel with each other and with the upper and lower edges of the base 29 and spaced apart, are secured, these slats and rib-forming members being of the same thickness. The slat 31 shown as extending along the lower horizontal edge of the base 29 and the slat 33 at the left-hand end of the base, extend downwardly and laterally, respectively, beyond the edges of the sheet 30 at which they are located and the slat 32 extending along the upper edge of the base 29 and the slat 34 at the righthand end of the base are set back a slight distance from the respective adjacent edges of the sheet 30, thereby creating ship-lap-joint-forming elements which serve as means, in the staggered grouping of a plurality of panels as shown in Figure 10, to permit the provision of ship-lap joints between each panel at its surrounding marginal edges and the panels adjacent thereto; the disposition of the parts of the panels as shown and described causing the panels to bear flatwise to their slats 31-34 and the rib-forming members 35 against the wall surface to which the panel assembly is applied with their forward exposed surfaces disposed in the same plane and thus rendering the siding free from bulges or warpage and giving thereto the same appearance as in the case of siding formed of a single sheet instead of one formed in sections.

Furthermore, the provision of the slats 31-34 and the rib-forming members 35, in combination

with the wall to which the panel is applied, provides closed thermo-insulation spaces between the panel and the wall, thereby enhancing the insulating property of the structure; these slats and rib-forming members also serving as stiffening reinforcements for the sheet portion 30 of the panel with resultant saving in material.

As will be understood, the panel may comprise only the part which is described in both of the constructions shown as a base and which has utility where surface ornamentation or patterning is not desired, in which case there would be interposed between the flanges 21 and 22 of adjacent panels Figures 1-9, at the horizontal joints, layers of tacky material corresponding with the lowermost portions of the coatings 24 employed as shown in Figure 4, or on the other hand the panel may, as described, comprise the base and patterning or ornamenting as, for example, as disclosed; and thus in using the term "panel" in the appended claims it is intended that it cover both a structure in which the bare base constitutes the panel and a structure in which the base is patterned or ornamented.

While I have illustrated and described certain particular embodiments of my invention, I do not wish to be understood as intending to limit the invention thereto as the same may be variously modified and altered and the invention embodied in other forms of structure without departing from the spirit of my invention.

What I claim as new and desire to secure by Letters Patent is:

1. A building siding panel of rectangular shape and having ribs on one face thereof and ship-lap-joint-forming flanges on certain of the edges thereof which are disposed at an angle to each other, said panel adapted to seat flatwise at all of its flanges and at its ribs against a wall surface to which the panel is applied by reason of all of said flanges and ribs having their wall-contacting sides in one plane.

2. Building siding comprising, in combination, an assembly of panels in staggered relation, said panels being of rectangular shape and having ribs at the rear faces thereof and ship-lap-joint-forming flanges on certain of the edges thereof which are disposed at an angle to each other, said panels adapted to seat flatwise at all of their flanges and at their ribs against a wall surface to which the panel assembly is applied, with the front face portions of the panels disposed in the same plane by reason of all of said flanges and ribs having their wall-contacting sides in one plane.

3. A building siding panel of rectangular shape and corrugated to form ribs on one face thereof, said panel having ship-lap-joint-forming flanges on certain of the edges thereof which are disposed at an angle to each other, said panel adapted to seat flatwise at all of its flanges and at its

ribs against a wall surface to which the panel is applied by reason of all of said flanges and ribs having their wall-contacting sides in one plane.

4. A building siding panel of rectangular shape and corrugated to form ribs on one face thereof, the bottoms of which are flattened at one end of the panel, said panel having ship-lap-joint-forming flanges on certain of the edges thereof which are disposed at an angle to each other, one of said flanges being at the end of the panel opposite that at which the ribs are flattened, said panel adapted to seat flatwise at certain of its flanges and at the unflattened portions of its ribs against a wall surface to which the panel is applied.

5. A building siding panel of rectangular shape and corrugated to form ribs on one face thereof, said panel having ship-lap-joint-forming flanges on its upper and lower horizontal edges and at one end of the panel, the flange on one of said horizontal edges and the end flange and the ribs being in the same plane and at which portions the panel seats flatwise against a wall surface to which the panel is applied and the flange on the other of the horizontal edges being forwardly offset a distance equal substantially to double the thickness of the material of the panel.

6. A building siding panel of rectangular shape and corrugated to form ribs on one face thereof, the bottoms of which are flattened at one end of the panel, said panel having ship-lap-joint-forming flanges on its upper and lower horizontal edges and at one end of the panel, the flanges on one of said horizontal edges and the end flange and the unflattened portions of said ribs being in the same plane, the flange on the other of the horizontal edges being forwardly offset a distance equal substantially to double the thickness of the material of the panel.

7. A building siding panel of rectangular shape formed of a sheet portion, slats secured to a face of said sheet portion at the marginal edges of the latter, one slat of each pair of opposed slats extending beyond the edge of the sheet and the other slat of each pair reaching short of the edge of the sheet at which it is located, whereby to produce ship-lap-joint-forming flanges, and rib-forming members at the face of said sheet at which the said slats are located, said rib-forming members and said slats being in the same plane.

8. A building siding panel of rectangular shape and having ribs on one face thereof and ship-lap-joint-forming flanges on two adjacent angularly disposed edges of the panel, said flanges being thus disposed at an angle to each other, said panel adapted to seat flatwise at said angularly disposed flanges and at its ribs against a wall surface to which the panel is applied by reason of all of said flanges and ribs having their wall-contacting sides in one plane.

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