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A. ELMENDORF
SIDING FOR BUILDINGS
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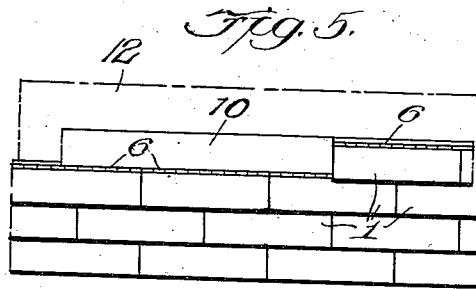
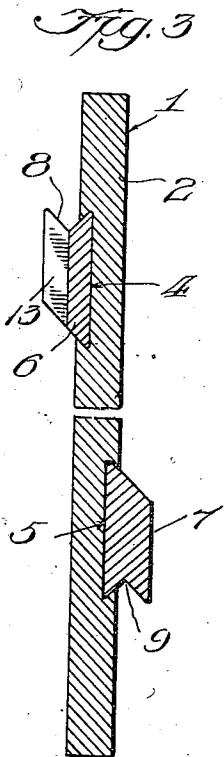
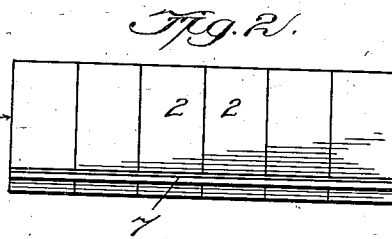
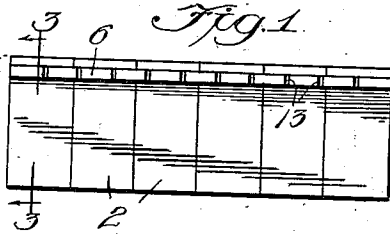
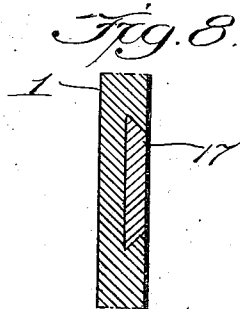
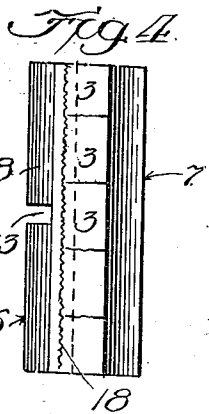
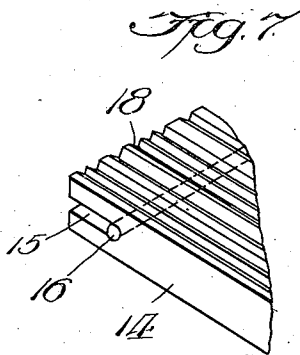
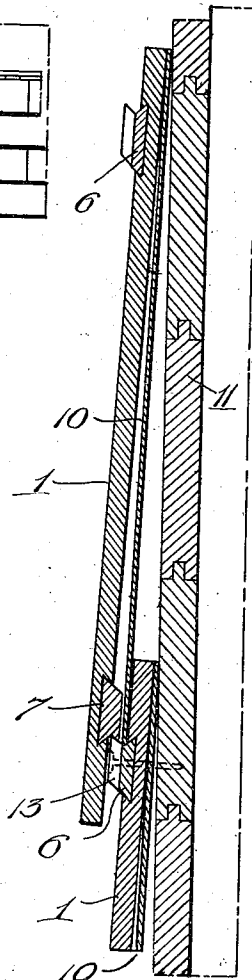


Fig. 6.



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SIDING FOR BUILDINGS

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12 Claims. (Cl. 20—5)

Board siding of the usual types must be free from knots, thereby making unavailable for this purpose a great deal of lumber because of its knotty character.

The object of the present invention is to produce a novel form of siding which will permit the use of knotty woods heretofore unsuitable, through the employment of those portions that are free from knots.

In carrying out my invention, I utilize short boards that may be from a foot to twenty inches long, whereby many of such pieces can be salvaged from a board that contains a number of knots. These short boards are assembled in the form of panels of considerable areas, which are applied to a wall as complete units. A further object of the present invention is to produce a type of panel which, although strong and durable, is thin and light, thereby reducing the amount of wood required to a minimum.

I have found that by slitting the boards lengthwise into strips about one-half of an inch wide, a board thickness of not more than about three-eighths of an inch is required in order to insure that the boards remain flat for an indefinite period and under all weather conditions. This strip-like formation may be brought about by cutting each board into separate strip-like pieces which are then secured together in the same relative positions as those originally occupied in the board; or the slitting of the board may be only partial, as set forth in my Patent No. 2,018,712, dated October 29, 1935, whereby the several strips are united by unruptured strands which hold the strips together while permitting individual expansion and contraction of each strip. As many of these boards as are required to produce a panel width of, say, three feet, are placed edge to edge and secured together, preferably in a manner to permit each course of panels to be accurately located by the mere act of engaging them with ridges or other projections on the panels in the next lower course. I also provide means for effectively shedding any water that might drive through the body of the panel.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a front elevation of a panel embodying the present invention in a preferred

form; Fig. 2 is a rear view of the panel shown in Fig. 1; Fig. 3 is a section, on a larger scale, taken approximately on line 3—3 of Fig. 1; Fig. 4 is an edge view of a fragment of the panel, looking at the righthand end of Fig. 3 or downwardly from above Fig. 1; Fig. 5 is an elevational view of a wall, illustrating the process of applying the panels to produce a complete wall facing; Fig. 6 is a vertical section through a wall faced in accordance with the present invention, showing only a small fragment; Fig. 7 is a perspective view showing a fragment of one end of one of the boards of a panel, showing a slight modification; and Fig. 8 is an edge view of a fragment of a panel showing a further modification.

Referring to the drawing, 1 represents a rectangular panel, one side of which may conveniently be from twelve inches to twenty inches long, and an adjacent side be, say, three feet long. The panel is made up of individual boards 2, each as long as the short dimension of the panel, and of any desired width, placed edge to edge. Each board consists of or constitutes, in effect, a series of narrow strips 3 extending throughout the length thereof, in accordance with the invention of my aforesaid Patent No. 2,018,712, or my Patent No. 2,130,178, dated September 13, 1938. The several boards in each panel are secured together in such a manner as to produce a stiff, flat structure. In the preferred arrangement, this is accomplished by means of cleats arranged on opposite sides of the panel near the opposed long edges, and extending entirely across the panel. In the particular arrangement shown, each panel contains two wide, shallow, dovetail grooves 4 and 5 extending from one short edge to the other. The groove 4 is arranged in what is the front or outer side of the panel when in its position of final use, while the groove 5 is on the opposite side; the groove 4 being near what may be termed the upper end of the panel while the groove 5 is near the lower end. Fitted within the grooves 4 and 5 are thick cleats 6 and 7, respectively; both cleats, in the preferred form, protruding a substantial distance from the corresponding face of the panel. It will be seen that when the cleats are placed in position, they tie together not only all of the boards but all of the little strips, so that none of them can be displaced. If the cleats are a good fit in the grooves, no other fastenings are needed. If desired, a few small nails may be employed to tack the cleats to the panel. What may be termed the upper edge of the cleat 6 is undercut, as indicated at 8, the

same being true of the lower edge of the cleat 7, as indicated at 9. When the panel is set up-right, the cleat 8 presents an upwardly-opening trough, whereas the trough associated with the cleat 7 is on the under side. Or, viewing the matter in another way, the upper cleat may be said to have an upwardly and forwardly-projecting lip, while the lower cleat has a downwardly and rearwardly-projecting lip. When the marginal portion below the lower cleat on a panel is placed against the front face of the upper cleat of another panel, the first panel need only be lowered in order to cause the lips of the two meeting cleats to interlock with each other and thus prevent the lower end of the upper panel from being pulled forwardly away from the other panel. If this assembly is effected against a wall that is being faced, it is only necessary to drive a few nails through the upper cleats on the panels of each course, in order to hold those panels securely against the wall; except that the lower ends of the panels in the lowermost course must, of course, be fastened with nails or otherwise, since there is nothing there with which their lower cleats may interlock.

It therefore follows that after the first course of panels has been accurately located and secured to a wall, the next course requires no further care in the location thereof, than is needed to interlock the lower cleats thereof with the upper cleats on the panels of the first course. As a result, after a single course has been applied to a wall, all of the remaining courses can be added quickly and easily.

It is desirable to insure against the passing of water through the siding and into the wall behind the same. Therefore, I line the siding, as it were, with a suitable sheet material as, for example, saturated felt of about the quality known as fifty pound felt. This felt, as shown in Figs. 5 and 6, is cut into long strips 10 that are somewhat narrower than the height of a panel. Before laying the first or lowermost course of panels, one of these strips is tacked to the wall over the area which the lower course of panels is to occupy. When the panels are applied over this felt, the latter becomes permanently secured in place. After the first course is in position, another strip of felt is unrolled, one edge being set into the trough 8 extending throughout the length of the upper series of cleats 6 on the panels already in position. The felt strip may be lightly tacked along the upper edge to keep it from dropping down. Then, when the next course of panels is applied, the nails 11 that are driven through the nailing cleats of these panels pass through the upper marginal portion of the felt while the upper part of the panels itself may press against the felt and serve to clamp it against the wall.

If rain, during a severe storm, should find its way through the body of the panels, it cannot reach the wall 12 behind the siding, but is arrested by the felt, running down the front or outer face of each strip of felt until it reaches the cleats along the lower edge of the strip. I prefer so to construct the cleats that they will not clamp the felt between them and the body of the panel behind the same, but will leave sufficient space to enable the water to run down between the felt and this cleat into the trough in the cleat 6 on which the strip of felt rests. Furthermore, the protruding portion of each of the cleats 6 has slots or notches 13 cut through

the same from top to bottom. Therefore, whenever any water enters one of the troughs 8, it simply flows down through the grooves in the cleat and spills out over the exposed outer surface of the panel of which this particular cleat forms a part. In other words, the siding is self-draining.

In some cases it may not be deemed desirable to make use of the lower cleats, since the lower marginal portions of the panels in each course may, of course, be fastened by nailing them to the wall. It will be seen that if the line of nails is so located that the nails pass through the underlying nailing cleats of the panels in the next lower course, fewer nails need originally be driven through these nailing cleats, because the nails that hold the lower marginal portions of the panels in one course to the cleats also serve as fastenings for the upper ends of the panels in the next lower course. It is desirable in such cases, however, to secure the strip-like elements of each panel together along the lower end. In Fig. 7 there is shown a fragment of a panel 14 having in the lower edge face a deep narrow slot 15 extending throughout the length of the panel. Fixed in this slot is a long wire 16. By making the slot slightly narrower than the diameter of the wire, it is sufficient that the wire be simply forced into the slot where it will then be held frictionally, particularly if the slotted marginal portion of the panel be placed under a clamping pressure to insure that the lips bounding the slot be brought back to their initial positions.

Furthermore, the cleats on each panel may both be thin, as indicated at 17 in Fig 8, so as to lie flush with the corresponding faces of the panel.

The preferred form of the invention possesses the advantages, however, of simplicity and ease in the making of an installation, accuracy of alignment, and the concealing of all nails; and, obviously, the labor cost of making installation of panels embodying the preferred form is much less than that which requires nailing at both top and bottom of each panel.

As in the construction disclosed in my aforesaid Patent No. 2,130,178, whether a panel be composed of individual narrow strips of wood placed side by side in the same relative positions as those occupied in the original board, or of boards only partially divided, so that the strips are never completely separated from each other, the spacing of the strips is preferably such that, upon wetting, the strips can expand about three percent in width without producing any buckling of the panels. Therefore, no wide cracks can ever appear in a completed siding and, when the siding is suitably painted, the tiny cracks that might normally be produced in very dry weather, would remain concealed due to the flexibility of the coating. Even without a paint coating, however, the rough finish which would then be desirable for the faces of the panels would prevent any of the tiny cracks from becoming visible.

It will also be seen that the rear sides of the panels and the wall itself may be kept dry. No water can reach the wall and, if any gets behind the panels, it runs off, so that the rear surfaces of the panel will again dry out quickly.

In order to conceal the presence of the division line between the narrow strips of which the panels are composed, the exposed faces of the panels may be fluted, as indicated at 18, in the general direction of the grain. This not only produces

an attractive surface in simulation of a weathered state, but it causes each panel seemingly to be a single piece.

While I have illustrated and described with particularity only the single preferred form of my invention, with a few modifications, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claims.

I claim:

1. A rectangular siding panel or slab comprising short, thin boards each as long as one dimension of the panel arranged edge to edge, each board being slitted lengthwise into narrow strips to at least such an extent that each strip may expand and contract individually, and a cleat set partly into and extending across the panel transversely of the boards near an edge of the panel, the protruding portion of said cleat having slots extending transversely across the same.

2. A rectangular siding panel or slab comprising short, thin boards each as long as one dimension of the panel arranged edge to edge, each board being slitted lengthwise into narrow strips to at least such an extent that each strip may expand and contract individually, said panel having in each face a dovetail groove extending across the panel transversely of the boards, one of the grooves being near one end of the boards and the other being near the other end of the boards, and a cleat fitted in each groove.

3. A rectangular siding panel or slab comprising short, thin boards each as long as one dimension of the panel arranged edge to edge, each board being slitted lengthwise into narrow strips to at least such an extent that each strip may expand and contract individually, said panel having in each face a dovetail groove extending across the panel transversely of the boards, one of the grooves being near one end of the boards and the other being near the other end of the boards, and a cleat fitted in each groove and protruding therefrom, the outer edge of each cleat being undercut.

4. A rectangular siding panel or slab comprising short, thin boards each as long as one dimension of the panel arranged edge to edge, each board being slitted lengthwise into narrow strips to at least such an extent that each strip may expand and contract individually, a cleat extending across the panel transversely of the boards near an edge of the panel and fastened to each strip, the opposite edge of the panel having a groove in and extending the length of the edge face, and a tie member embedded in said groove.

5. A rectangular siding panel or slab comprising short, thin boards each as long as one dimension of the panel arranged edge to edge, each board being slitted lengthwise into narrow strips to at least such an extent that each strip may expand and contract individually, said panel having on each face a protruding cleat extending across the panel transversely of the boards, one of the cleats being near one end of the boards and the other being near the other end of the boards, and each cleat having means to interlock with a cleat similar to the other cleat on the same panel when the outer edge of one is engaged with the outer edge of the other.

6. In combination, a wall, thin panels arranged in overlapping courses, one above the other, the panels in each course bearing at their upper margins against said wall and having on their

outer sides, near and paralleling their upper edges, protruding cleats, and the panels in each course having also on their rear or inner sides, cleats near and paralleling their lower edges, the lower cleats in each course of panels resting on the upper cleats in the next lower course.

7. In combination, a wall, thin panels arranged in overlapping courses, one above the other, the panels in each course bearing at their upper margins against said wall and having on their outer sides, near and paralleling their upper edges, protruding cleats, and the panels in each course having also on their rear or inner sides, cleats near and paralleling their lower edges, the lower cleats in each course of panels resting on the upper cleats in the next lower course, the upper edges of the upper cleats and the lower edges of the lower cleats being undercut to cause engaging cleats to be interlocked.

8. In combination, a wall, thin panels arranged in overlapping courses, one above the other, the panels in each course bearing at their upper margins against said wall and having on their outer sides, near and paralleling their upper edges, protruding cleats, and the panels in each course having also on their rear or inner sides, cleats near and paralleling their lower edges, the lower cleats in each course of panels resting on the upper cleats in the next lower course, and a long strip of waterproof sheet material extending behind and throughout the length of each course and resting at its lower edge on the upper cleats in the next lower course.

9. In combination, a wall, thin panels arranged in overlapping courses, one above the other, the panels in each course bearing at their upper margins against said wall and having on their outer sides, near and paralleling their upper edges, protruding cleats, and the panels in each course having also on their rear or inner sides, cleats near and paralleling their lower edges, the lower cleats in each course of panels resting on the upper cleats in the next lower course, and a long, wide strip of waterproof sheet material extending behind and throughout the length of each course and resting at its lower edge on the upper cleats in the next lower course, the last-mentioned cleats having slots extending through the same to permit water to flow down from in front of the waterproof sheet resting thereon to the exposed faces of the panels on which those cleats are located.

10. In combination, a wall, thin panels arranged in overlapping courses, one above the other, the panels in each course bearing at their upper margins against said wall and having on their outer sides, near and paralleling their upper edges, protruding cleats, and the panels in each course having also on their rear or inner sides, cleats near and paralleling their lower edges, the lower cleats in each course of panels resting on the upper cleats in the next lower course, the upper cleats protruding farther from the panel faces than do the lower cleats to provide spaces between the lower cleats and the panels behind them, and a long strip of waterproof sheet material arranged behind each course from the region of the upper cleats in the next lower course, the upper marginal portion of each waterproof strip being clamped between the wall and the upper ends of the panels behind which that strip lies.

11. In combination, a wall, thin panels arranged in overlapping courses, one above the other, the panels in each course bearing at their

upper margins against said wall and having on their outer sides, near and paralleling their upper edges, protruding cleats, and the panels in each course having also on their rear or inner sides, cleats near and paralleling their lower edges, the lower cleats in each course of panels resting on the upper cleats in the next lower course, the upper cleats protruding farther from the panel faces than do the lower cleats to provide spaces between the lower cleats and the panels behind them, and a long strip of waterproof sheet material arranged behind each course from the region of the upper cleats in the next lower course, the upper marginal portion of each waterproof strip being clamped between the wall and the upper ends of the panels behind which that strip lies, the upper cleats having slots extending through the same from top to bottom to permit water to drain from the aforesaid spaces.

12. In combination, a wall, thin panels arranged in overlapping courses, one above the other, the panels in each course bearing at their upper margins against said wall and having on their outer sides, near and paralleling their upper edges, protruding nailing cleats, fastenings extending through the aforesaid cleats into said wall, and the panels in each course having also on their rear or inner sides, cleats near and paralleling their lower edges, the lower cleats in each course of panels being above the upper cleats in the next lower course, the upper edges of the upper cleats and the lower edges of the lower cleats being undercut to cause engaging cleats to be interlocked and the lower ends of the panels in each course to be held to the wall by the nailing cleats in the next lower course.

ARMIN ELMENDORF.