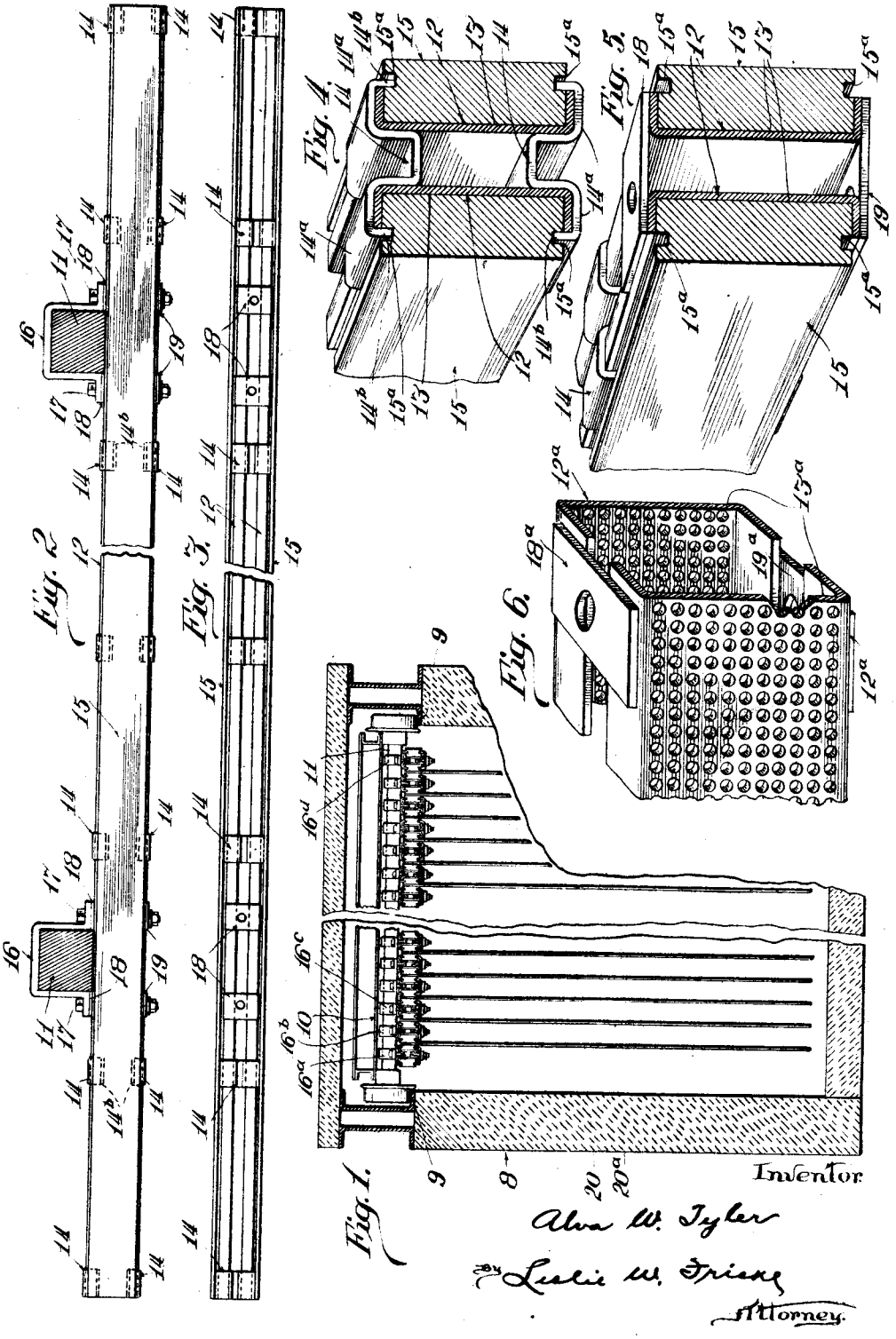
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A. W. TYLER

CLAMPING MEANS FOR WALL BOARD OR THE LIKE

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Inventor

Alva W. Tyler

By Leslie W. Friend

Attorney.

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ALVA W. TYLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNIVERSAL GYPSUM & LIME CO., OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

CLAMPING MEANS FOR WALL BOARD OR THE LIKE.

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This invention relates to clamping means for vertically suspending panels of material to be dried in kiln cars or trucks of the overhead type. It is concerned particularly with clamping mechanism for suspending in a vertical position wall board or panels in an undried state until the same is properly dried, such boards or panels having a plastic body which is of a weak or soft nature.

In clamping mechanism for the purpose stated, it is very desirable that the strips, which are clamped against the sides of the panels, do not mar or discolor the panels and that they absorb the moisture from those portions of the panels actually engaged by the strips, or otherwise permit them to dry. It has been found that wooden strips, for example, maple strips, have little tendency to mar or discolor the panels and that they absorb considerable of the moisture from that part of the panels actually engaged by them. Strips made entirely of wood, however, quickly warp out of shape and have to be replaced, or trued up again before they can be used, which is a matter of considerable expense and annoyance. One of the objects of my invention, therefore, is the provision of a clamping strip so constructed that it will be well adapted for the purpose and not warp out of shape even when used for a long period of time.

A further object of my invention is the provision of clamping strips so constructed that they will permit the air to circulate freely between the suspended panels.

The invention consists in the novel constructions, arrangements and devices to be hereinafter described and claimed for carrying out the above stated objects and such other objects as will appear from the following description of certain preferred embodiments illustrated in the accompanying drawing, wherein—

Fig. 1 is a sectional view of a kiln equipped with mechanism embodying the principles of my invention;

Fig. 2 is a side elevational view, on an enlarged scale, of one of the clamping strips shown in Fig. 1;

Fig. 3 is a plan view, also on an enlarged scale, of one of the clamping strips;

Fig. 4 is a perspective view, on a further enlarged scale, of one end of a fragmentary portion of one of the strips;

Fig. 5 is a perspective view, similar to Fig. 4, the strip being broken at a different place, however, to show certain additional features; and

Fig. 6 is a perspective view of a clamping strip of modified construction.

Like characters of reference designate like parts in the several views.

Referring now to the drawings and first to that embodiment of my invention which is illustrated in Figs. 1 to 5, it will be seen that the longitudinally extending kiln 8 is provided with an overhead track 9 on which a car 10 may be run, the car entering or leaving the kiln from one end. The car is preferably provided with two spaced cross members 11 from which the clamping mechanism is suspended.

The clamping strips are double faced. Each strip comprises a pair of longitudinally extending channel irons 12 which are placed so that their respective channels 13 are on the outer sides. The channel irons 12 are held in spaced relation by a plurality of pairs of U-shaped clips 14, the ends 14^a of the clips being attached to the sides of the channel irons in any desired manner, for example, by spot welding. The extremities 14^b of the clips are bent at right angles so that they extend inwardly over the channels 13. Facer strips 15 of any suitable material, for example, maple wood or compressed fiber material, are placed in the respective channels 13, these strips having longitudinally extending grooves 15^a provided in their respective sides which are adapted to receive the bent portions 14^b of the respective top and bottom clips 14.

The clamping strips are suspended at each end by inverted U-shaped clips 16, see Fig. 2, which are placed over the respective cross members 11 of the car. The ends of each clip 16 are bent outwardly and are perforated for the insertion of bolts 17. The bolts pass through a top strap 18, see Figs. 2 and 5, then down between the channel irons 12 and finally through a bottom strap 19. The ends of the straps 18 and 19 are preferably secured to the sides of the channel irons 12 in any desired manner, for example, by spot welding.

When the car is to be loaded, it is run out of the kiln. Some relatively stationary means is provided in association with the respective cross members 11 for the first panel 20 to be clamped against; said means

in the present arrangement constituting the end clips 16^a, see Fig. 1, the nuts on the bolts 17 thereof being tightened securely. The nuts on the bolts of all the other clips are not turned on tightly, the other clips, therefore, being slidable on the respective cross members 11. After the first panel 20 has been properly positioned with one of its sides bearing against the inner face of the inner strip suspended by the end clips 16^a, the clips 16^b are moved over to bring the face of one of the clamping strips carried thereby against the other side of said panel, the clips 16^b being held securely in place by a set of suitable tools, not shown. A panel 20^a is now placed with one of its sides bearing against the face of the other strip carried by the clips 16^b and then the clips 16^c are moved over to bring the face of one of the clamping strips carried thereby against the other side of said panel 20^a, the clips 16^c being then held securely in place by another set of the tools mentioned above which, obviously, will also serve to hold the clips 16^b and the panel 20; whereupon the set of tools holding the clips 16^b may be removed. Likewise, the other panels and clips are successively placed and held in position, the two sets of tools being alternately set and released. When the car has been loaded in this manner the last set of clips 16^d are secured in place which may be done in any one of several ways; in the present case the nuts on the bolts 17 holding said clips 16^d are turned on tightly.

It will be obvious that the facer strips 15 are securely held in the channels so that they cannot warp or twist out of shape. The surface bearing against the panels is maintained in an even, smooth and straight condition and the panels are not marred or appreciably marked. The construction is light in weight but rigid and durable. The strips may be relatively thin and, therefore, maximum capacity of the kiln is obtained. The spaced channel irons 12 permit the air to circulate freely between the vertically suspended panels and thus all parts of the panels dry uniformly.

In the modified clamping strip shown in Fig. 6, the channel members 12^a are placed so that their respective channels 13^a face each other. The channel members 12^a are held in spaced relation by straps 18^a and 19^a which are perforated for the insertion of bolts, the manner of suspending the clamping strips being similar to that heretofore described. In this form of my invention the backs of the channel members 12^a bear directly against the panels. The channel members 12^a are made of a material of such a nature that the panels are not stained or discolored or otherwise damaged. They may be made from any suitable material, for example, non-corrodible metallic material or a compressed fiber material. The backs of the channels may be perforated to permit the air circulating between the panels to more effectively dry those portions of the panels which are engaged by the strips. This form of strip is of strong construction and non-warping.

I do not intend to limit my invention to the details of construction shown and described, except only in so far as certain of the appended claims are specifically so limited, as it will be obvious that modifications may be made without departing from the principles of my invention.

I claim:

1. In clamping means for wall board and similar material, a facer strip and non-warpable supporting means for said strip.

2. In clamping means for wall board and similar material, a facer strip and an open non-warpable frame for supporting said strip.

3. In clamping means for wall board and similar material, the combination of a pair of longitudinally extending members, means to hold said members in spaced relation, and facer strips mounted on the outer sides of said respective members.

4. In clamping means of the class described, the combination of a pair of longitudinally extending channel members placed with the channels thereof on the outer sides, means to hold said members in spaced relation, and facer strips in said respective channels.

5. In clamping means of the class described, the combination of a pair of longitudinally extending channel members placed with the respective sides thereof extending outwardly, U-shaped clips attached to the outer sides of said members for holding said members in spaced relation, the extremities of said clips being bent at right angles and extending inwardly, and facer strips for each of said channels, the edges of said strips having grooves to receive the extremities of said clips.

6. In clamping means for wall board and similar material, a wooden facer strip and a metallic frame for supporting said strip.

7. In clamping means for wall board and similar material, a wooden facer strip and an open metallic frame for supporting said strip.

8. In clamping means for wall board and similar material, the combination of a pair of longitudinally extending metallic channel members placed with the channels thereof on the outer sides, means to hold said members in spaced relation, and wooden facer strips in said respective channels.

9. In clamping means of the class described, the combination of a pair of longitudinally extending metallic channel members placed with the respective sides thereof

extending outwardly, U-shaped clips attached to the outer sides of said members for holding said members in spaced relation, the extremities of said clips being bent at right angles and extending inwardly, and wooden facer strips for said respective channels, the edges of said strips having grooves to receive the extremities of said clips.

10. The combination with supporting means for wall board and similar material, of a plurality of non-warpable clamping strips for engaging the sides of the boards, and means to attach said strips to said supporting means.

11. In combination with supporting means for wall board and similar material, of a plurality of pairs of longitudinally extending members for engaging the sides of the boards, means to hold the members of each pair in spaced relation, and means to attach said members to said supporting means.

12. The combination with supporting means for wall board and similar material, of a plurality of facer strips for engaging the sides of the boards, non-warpable backing means for said respective strips, and means for attaching said backing means to said supporting means.

13. The combination with supporting means for wall board and similar material, of a plurality of facer strips for engaging the sides of the boards, open non-warpable frames for supporting said respective strips, and means for attaching said frames to said supporting means.

14. The combination with supporting means, of a plurality of pairs of longitudinally extending members, means to hold said members in spaced relation, facer strips mounted on the outer sides of said respective members for engaging the sides of wall board or the like, and means for attaching said members to said supporting means.

15. The combination with supporting means, of a plurality of pairs of longitudinally extending channel members placed with the channels thereof on the outer sides, means to hold said members in spaced relation, facer strips mounted in said respective channels for engaging the sides of wall board or the like, and means for attaching said members to said supporting means.

16. The combination with supporting means, of a plurality of pairs of longitudinally extending channel members placed with the respective sides thereof extending outwardly, U-shaped clips attached to the outer sides of said members for holding said members in spaced relation, the extremities of said clips being bent at right angles and extending inwardly, facer strips for engaging the sides of wall board or the like, the edges of said strips having grooves to receive the extremities of said clips, and means for attaching said members to said supporting means.

17. The combination with supporting means for wall board and similar material, of a plurality of wooden facer strips for engaging the sides of the boards, metallic frames for supporting said respective strips, and means to attach said frames to said supporting means.

18. The combination with supporting means for wall board and similar material, of a plurality of wooden facer strips for engaging the sides of the boards, open metallic frames for supporting said respective strips, and means to attach said frames to said supporting means.

19. The combination with supporting means, of a plurality of pairs of longitudinally extending metallic channel members placed with the channels thereof on the outer sides, means to hold said members in spaced relation, wooden facer strips in said respective channels for engaging the sides of wall board or the like, and means to attach said member to said supporting means.

20. The combination with supporting means, of a plurality of pairs of longitudinally extending metallic channel members placed with the respective sides thereof extending outwardly, U-shaped clips attached to the outer sides of said members for holding said members in spaced relation, the extremities of said clips being bent at right angles and extending inwardly, wooden facer strips for said respective channels, the edges of said strips having grooves to receive the extremities of said clips, and means to attach said member to said supporting means.

ALVA W. TYLER.