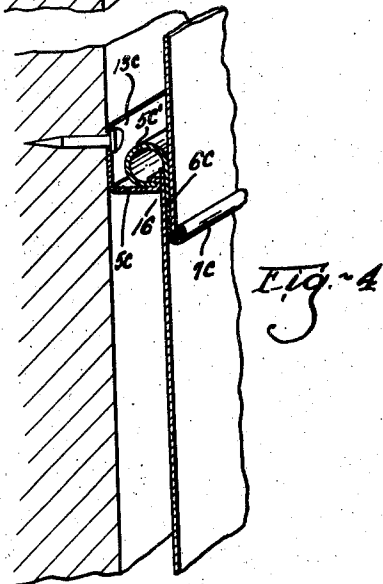
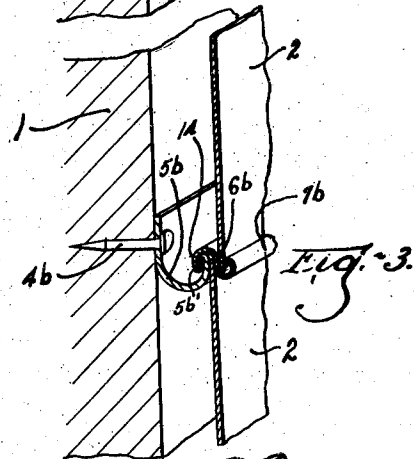
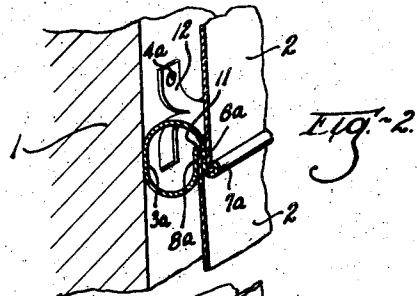
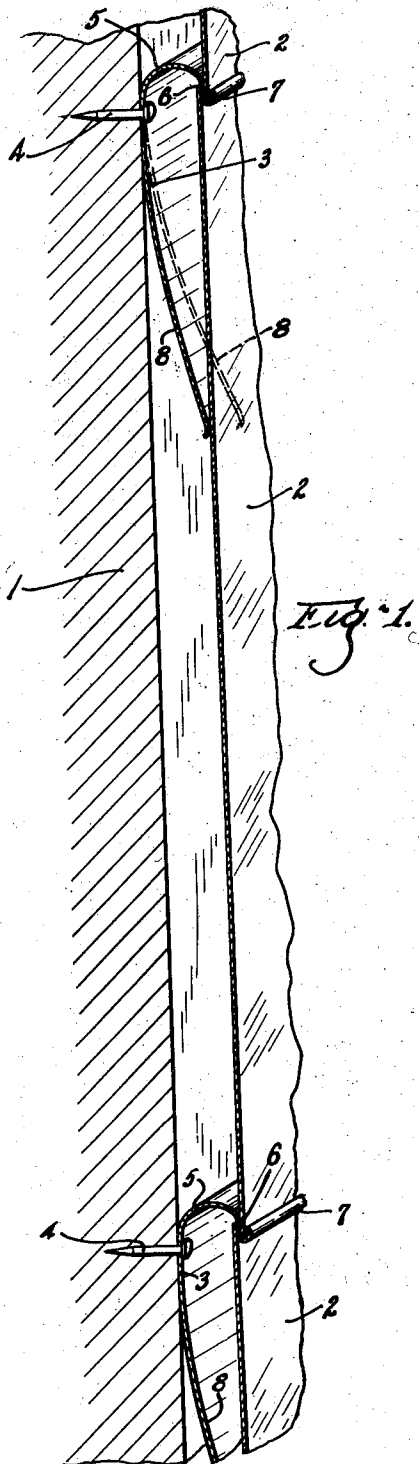


Aug. 28, 1934.

F. R. HIGLEY  
SHEATHING FOR BUILDINGS  
Filed Feb. 8, 1933

1,971,411



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## UNITED STATES PATENT OFFICE

1,971,411

## SHEATHING FOR BUILDINGS

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Application February 8, 1933, Serial No. 655,801

13 Claims. (Cl. 189—85)

This invention relates to sheathing for building structures, and more particularly contemplates the mounting of metal sheathing in strip or panel form in an exterior wall structure, in spaced relation to the wall body part, to provide a dead air space for heat insulating purposes.

In many instances where metal sheathing is to be employed, it is desired that a vitreous enamel finish be provided for the metal. For cheapness, light gauge is desirable, but warping of the product tends to increase with decreasing gauge. Sheathing has heretofore been used with deformed panel edges, which has further complicated the enameling process and increased the warping tendency.

An object of the present invention is to improve the characteristics with respect to warping, briefly by employing enameled sheathing units having undeformed edges, of light gauge, and so mounted that their edges are concealed and their warped deformities somewhat smoothed out.

An important part of the invention is the mounting means; and another object of the invention is to provide a simple means for mounting the sheathing without any tools and adapted to provide weatherproof characteristics to the finished structure, without the usual calking or cementing in so far as possible.

The exact nature of this invention together with further objects and advantages thereof will be apparent from the following description taken in connection with the accompanying drawing, in which each figure is a sectional elevation of an embodiment of the invention.

With reference now to the embodiment of Fig. 1, 1 conventionally represents a wall body which may be of any suitable material and construction, 2 are sheathing panels to be applied to the exterior face of the wall body 1, and 3 are runners or strips by which the sheathing panels are mounted on the wall body. These are the principal parts of the assembly.

The sheathing panels 2 are preferably of sheet metal, rust proof or made so by a coating such as vitreous enamel. They are rectangular, of width convenient for handling such as say one foot, and of length as desired. Their edges and particularly their top and bottom edges, are straight and undeformed as indicated.

The runner strips 3 are also of metal, deformed as will be described. They are disposed horizontally extending and secured in this position to the wall body 1 in any convenient manner, here conventionally illustrated as by nails 4 spaced

therealong. The vertical spacing of the strips 3 is dependent upon the width, that is the vertical dimensions, of the sheathing panels 2.

Each strip 3 has a part extending from the wall body as at 5 and thence downwardly to form a lip 6, with an outwardly thence upwardly turned bead 7 at the lower extremity of the lip. The part 5 is preferably curved as indicated so that it will have some yieldability. The lip part 6 is flat, in a vertical plane, and has greater vertical dimension than the variance permitted in the width of the sheathing panels. The bead part 7 opens upwardly adjacent the lip part 6 to provide clearance for insertion into the hollow of the bead, of the lower edge of a sheathing panel. The strip parts described are preferably located above the strip-securing means 4, although they might be located therebelow.

On the opposite side of the securing means the strip extends from the securing means to provide a spring part 8 arranged to yieldably extend from the wall body 1, beyond the bead 7, as indicated in broken lines.

In operation, the mounting strips 3 are first secured horizontally extending upon the wall body in proper vertically spaced relation. To mount a sheathing panel between two of these strips, the upper edge of the panel is inserted back of the lip 6 beneath its supporting part 5. The panel is next swung downwardly and its lower edge inserted into the bead 7 of the mounting strip therebelow. This deforms the spring part 8 of the strip so that the latter bearing against the panel adjacent its upper edge, maintains this upper edge firmly bearing against the lip part 6 of the upper mounting strip. This completes the mounting of the panel, and the remaining panels, above or below, are added to the assembly in the same manner, their order of mounting being optional.

It will be noted that the panels are thus disposed in spaced relation with the wall body part, providing air chambers each lying back of one of the panels and between the two mounting strips supporting that panel, the mounting strips thus preventing vertical circulation in the space back of the panels, and providing a cellular characteristic to the air space.

Similarly each panel is removable, should removal be necessary, independently of the remaining panels above and below it. Each panel is firmly supported at both upper and lower edges, entirely therealong and prevented from chattering or any motion in its mounting means, by the spring part 8 of the corresponding mounting

strip. Indeed all of the sheathing panels have somewhat of a sprung relation with the wall body part owing to the slight yieldability of the parts 5 and 8 of their mounting strips. The mounting strip parts may be so proportioned that the sheathing assembly is weatherproof, this characteristic being dependent generally upon the vertical dimensions of the lips 6 and the area and nature of bearing thereon by the panel edges. If necessary or desirable the parts bearing at such location may have elastic cement applied thereto, as before their assembly, to insure a seal.

The mounting strips may be wholly of rust-proof material such as stainless steel or nonferrous metal. But if preferred the cheapest material may be employed for the mounting strips and their lip and bead parts 6 and 7 covered with suitable rustproofing material. Or obviously the strips might be made up of separate parts of the different materials, secured as by an overlap at the securing means.

In any event, the beads 7 provide trim for their sheathing panels, concealing the lower panel edges, which may thus be as rough and unfinished as is necessary for economy. Similarly the upper panel edges are concealed by the mounting strip lip parts 6 which overhang them. The appearance even from a slight distance is not of a shingling effect, the panels appearing as exactly in a common plane.

The parts may be so proportioned and arranged that the intermediate parts of the panels are given a slight outward bow by the spring parts 8 of the mounting strips, extending therebehind and therealong. The effect of such a bow is to give a barely perceptible cylindrical characteristic to the panels, with horizontal line elements, thus smoothing out irregularities in the panels due to warping as in the baking of an enamel coat. In any event the strength of the spring parts 8 resists deformation of the panels by external sources.

With reference now to the modification of Fig. 2, the mounting strip 3a may be secured to the wall body, in any convenient manner. The mounting strip is generally of C-shape with its upper edge or lip part 6a overlapping its inner spring edge part 8a as indicated. These parts are sprung to tend to bear against each other. The lip part 6a terminates in a bead 7a. The extremity of the spring part 8a has formed therealong a very slight lip 11 adapted to engage the upper extremity of a sheathing panel without bearing against the lip 6a, when the panel edge is inserted, as shown, between the parts 6a and 8a. The lower edge of the panel rests in the hollow of the bead 7a as before, and the spring part 8a of each mounting strip is arranged to yieldably urge the panel whose upper edge it engages, downwardly to maintain the lower edge of the same panel seated in the bead part 7a of the next mounting strip therebelow.

For the purpose of mounting the strip 3a on the wall body, tabs 12 are punched out and turned up of the metal at intervals along the strip, and nailed, screwed, or welded to the wall body as before, nails 4a being here indicated.

The manner of mounting the sheathing panels will be apparent. The lower extremity of the panel is supported in the bead 7a as before. The upper extremity of the panel is inserted between the lip parts 8a and 6a of the mounting strip and gripped therebetween by the resilience of the strip.

Fig. 3 shows a modification wherein the mounting strip is in two parts. The part 5b secured to the wall 1 as by nails or the like 4b, and the part 6b carried by the part 5b. The part 5b extends downwardly from its mounted edge, thence outwardly and upwardly and its free extremity is folded back upon itself as at 5b'. The part 6b has a portion 14 hooked over the extremity of the part 5b and inwardly bent to engage the fold 5b'. The part 6b overhangs the part 5b, and terminates in a lip 7b adapted to receive and support the lower extremity of a sheathing panel as before. The upper edge of a sheathing panel is received in the downwardly opening crevice formed between the parts 5b and 6b as shown in the drawing.

It will be noted that the two mounting strip parts may be assembled by simply placing the outer part 6b over the free edge of the inner part 5b. As soon as the inner extremity of the part 6b passes the fold 5b' it will snap thereunder to engage the latter and thereafter prevent removal of the part 6b; the part 6b being suitably proportioned of spring material to this end, and also to clamp the inserted upper extremity of a sheathing panel against the member 5b.

In this arrangement the part 5b may of exceedingly inexpensive material such as strip steel of low grade, and the part 6b of high grade rust-proof material such as stainless steel, copper or the like. The latter part will be noted as smaller than the part 5b which supports it, so that the cost of the mounting strip assembly is slight. While the member 6b preferably has resilient properties, it may be of comparatively light gauge so that it will yield under the weight of an upper panel carried by its bead 7b, and thereby be caused to bear against the upper extremity of the panel next therebelow.

With this form of two-piece mounting strip, the member 5b may be secured upon the wall body in the shop, and the member 6b snapped onto the member 5b in the field after erection of the wall body and before mounting the sheathing panels. By such procedure the member 6b is not defaced during handling and erection of the wall body.

With reference now to the modification of Fig. 4 the mounting strip has a flat part 13c secured with the wall body part as before, and having an integral outwardly extending part 5c folded back upon itself at its extremity as indicated. A curved spring part 5c', having an integral lip part 6c downwardly extending and terminating in a bead part 7c, of rustproof metal, are secured with the part 5c as by hooking under the fold of that part. The spring part 5c' is arranged to yieldably urge the lip part 6c inwardly toward the outer extremity of the part 5c.

In operation the lower edge of a sheathing panel is inserted and secured in the opening of the bead 7c as before. The upper edge of a sheathing panel is inserted between the lip part 6c and the projection 16 and there gripped by the spring of the mounting strip.

The sheathing panels are preferably of such length that vertical joints between horizontally spaced panels are unnecessary. Such a joint, however, may be accomplished by backing the vertical joint with a flat strip of sheet metal overlying the adjacent panel ends and cemented thereto. Such elementary double lap joint, with the panel ends in abutting relation, will not materially affect the horizontal panel continuity so

far as the described mounting means are concerned.

While an object of the invention has been to teach the use of panels having undeformed edges and the resulting advantages, it will be apparent that should it be desirable as for added rigidity and convenience in handling, or for any other reason, that the upper and lower panel edges be finished as by turning back upon themselves, they may still be mounted in the shown manner, the mounting strip deformations being suitably proportioned for the purpose. Architecturally it is often desirable that horizontal lines upon the face of the wall, appear more pronounced than as here illustrated. Obviously, therefore, the beads in which the lower panel edges rest, may be made larger with this intent. In any event, the beads will throw shadows by which their apparent size will be accentuated.

It will be apparent from the embodiments specifically illustrated, that the invention is capable of almost infinite variation of the form which its embodiment may take. I do not wish, therefore, to be limited by the modifications here shown, but rather define the scope of the invention in the following claims.

What I claim is:

1. Means for mounting sheathing panels on a wall body structure, comprising a strip adapted to be secured to the wall body horizontally disposed thereon, having a part extending from the wall body and thence downwardly to form a lip, with an outwardly thence upwardly turned bead at the lower extremity of the lip, said lip part being adapted to overhang the upper edge of a sheathing panel and said bead part being adapted to receive and support the lower edge of an adjacent sheathing panel thereabove, and spring means arranged to yieldably maintain said upper edge of said lower panel bearing against said lip part of the mounting strip.

2. Means for mounting sheathing panels on a wall body structure, comprising a strip adapted to be secured to the wall body horizontally disposed thereon, having a part extending from the wall body and thence downwardly to form a lip, with an outwardly thence upwardly turned bead at the lower extremity of the lip, and having a spring part arranged for extensibility toward and from said wall, the parts being so proportioned and arranged that said bead part will receive and support the lower edge of a sheathing panel, and the upper edge of another sheathing panel disposed back of said lip part to be overhung by the latter will be caused by said spring part to bear against said lip part, whereby said panels may be mounted in shingled relation, spaced from said wall body.

3. In combination with a wall body structure and plain edged sheathing panels therefor, mounting strips secured to said wall body horizontally disposed thereon in vertically spaced relation, each mounting strip having a part extending from the wall body and thence downwardly to form a lip, with an outwardly thence upwardly turned bead at the lower extremity of the lip, and having a spring part arranged for extensibility toward and from said wall, each sheathing panel having its lower edge received and supported in the bead of one of said mounting strips, and having its upper edge disposed back of the lip part of the mounting strip next thereabove, and being caused to bear against said lip part by the spring part of one of said mount-

ing strips, whereby said panels are mounted in shingled relation, spaced from said wall body.

4. Means for mounting sheathing panels on a wall body structure, comprising a strip adapted to be secured to the wall body horizontally disposed thereon, having a part extending from the wall body and thence downwardly to form a lip, with an outwardly thence upwardly turned bead at the lower extremity of the lip, and having a spring part arranged for extensibility toward and from said wall below said lip, the parts being so proportioned and arranged that said bead part will receive and support the lower edge of a sheathing panel, and the upper edge of another sheathing panel disposed back of said lip part to be overhung by the latter will be caused by said spring part to bear against said lip part.

5. Means for mounting sheathing panels on a wall body structure, comprising a strip adapted to be secured to the wall body horizontally disposed thereon, having a part extending from the wall body and thence downwardly to form a lip, with an outwardly thence upwardly turned bead at the lower extremity of the lip, and having a spring part arranged for extensibility toward and from said wall, the parts being so proportioned and arranged that said bead part will receive and support the lower edge of a sheathing panel, and the upper edge of another sheathing panel disposed back of said lip part to be overhung by the latter will be caused by said spring part to bear against said lip part, said lip part having substantial vertical dimension to permit vertical adjustment of the sheathing panel edge disposed therebehind.

6. A mounting strip for sheathing panels, having an intermediate part with associated means for securing said strip on a wall body structure, said strip having on one side of said mounting means a part extending from the wall body and thence downwardly to form a lip, with an outwardly thence upwardly turned bead at the lower extremity of the lip, and said strip having on the other side of said securing means, a spring part arranged for extensibility toward and from said wall, the parts being so proportioned and arranged that said bead part will receive and support an edge of a sheathing panel, and the adjacent edge of another sheathing panel may be disposed back of said lip part to be overhung by the latter, and said spring part will bear outwardly against one of said sheathing panels intermediate its edges.

7. A strip for mounting sheathing panels on a wall body structure, said strip having an intermediate part secured to the wall body, and having above said secured part a part extending from the wall body and thence downwardly to form a lip, with an outwardly thence upwardly turned bead at the lower extremity of the lip, and said strip having extending below said secured part a spring part arranged for extensibility toward and from said wall, the parts being so proportioned and arranged that said bead part will receive and support the lower edge of a sheathing panel, and the upper edge of another sheathing panel may be disposed back of said lip part to be overhung by the latter, and said spring part will bear outwardly against the lower of said sheathing panels adjacent its upper edge.

8. Means for mounting sheathing panels on a wall body structure, comprising a strip adapted to be secured to the wall body horizontally disposed thereon, having a part extending from the wall body and thence downwardly to form a lip,

- with an outwardly thence upwardly turned bead at the lower extremity of the lip, said lip part being adapted to overhang the upper edge of a sheathing panel and said bead part being adapted to receive and support the lower edge of an adjacent sheathing panel thereabove, means arranged to yieldably maintain said upper edge of said lower panel bearing against said lip part of the mounting strip and having means arranged cooperative with said lower panel to yieldably urge said lower panel downwardly.
9. Means for mounting sheathing panels on a wall body structure, comprising a strip having a pair of members, one of said members being adapted to be secured to the wall body horizontally disposed thereon, and having a part extending from the wall body, the other member comprising a part adapted to be mounted on said secured part and extending downwardly to form a lip, with an outwardly thence upwardly turned bead at the lower extremity of the lip, said lip part being adapted to overhang the upper edge of a sheathing panel and said bead part being adapted to receive and support the lower edge of an adjacent sheathing panel thereabove, and said secured part being adapted to form a backing for said sheathing panel.
10. Means for mounting an exterior sheathing panel on a wall body structure in spaced relation therewith, comprising a pair of vertically spaced means mounted on said wall body and extending therefrom to engage said panel at three locations, one of said locations being at the lower extremity of the panel, and the other locations being thereabove, on the opposite faces of the panel, the upper of said means including means for engaging the lower extremity of another sheathing panel in shingling relation above said first panel.
11. Means for securing the adjacent top and bottom parts of adjacent exterior sheathing panels with a wall body in spaced relation thereto and in shingling relation with each other, including means adapted to be secured to the wall body and extending therefrom to receive and support the lower edge of the upper panel in spaced relation to said wall body, and associated means arranged to yieldably urge the upper part of the lower panel from said wall body and against said upper panel supporting means.
12. A mounting strip for securing the adjacent top and bottom parts of adjacent exterior sheathing panels with a wall body in spaced relation thereto and in shingling relation with each other, including means adapted to be secured to said wall body and extending therefrom to overhang the upper edge of the lower panel and adapted to receive and support the lower edge of the upper panel in spaced relation to said wall body, and associated spring means arranged to yieldably urge, from said wall body, a part of the lower panel removed from its lower edge.
13. Means for securing the adjacent top and bottom parts of adjacent exterior sheathing panels with a wall body in spaced relation thereto and in shingling relation with each other, including means adapted to be secured on said wall body and extending therefrom, with parts arranged to bear on the outside of the lower panel at the upper edge thereof and on the inside of the lower panel at a point removed from the lower edge thereof, and with a part arranged to receive and support the lower edge of the upper panel with said edge lower than the upper edge of the lower panel.
- FRANK R. HIGLEY.

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