

May 15, 1928.

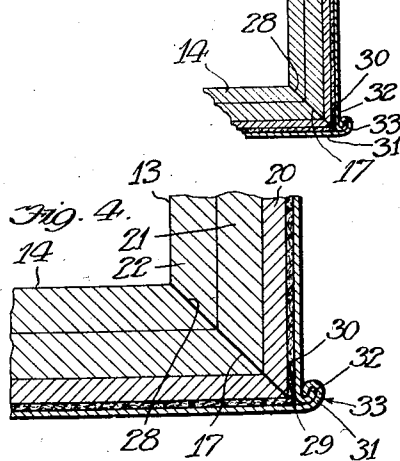
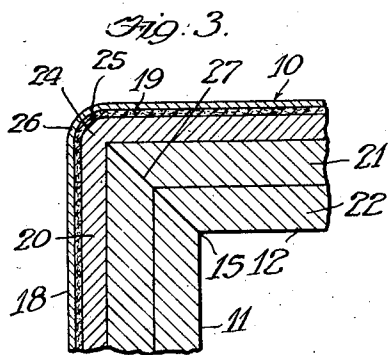
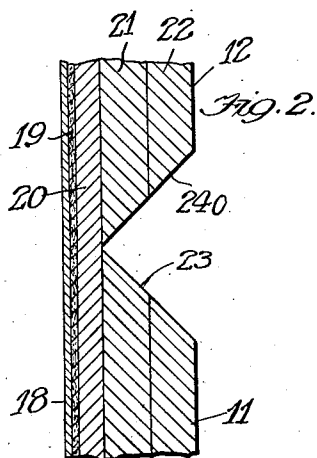
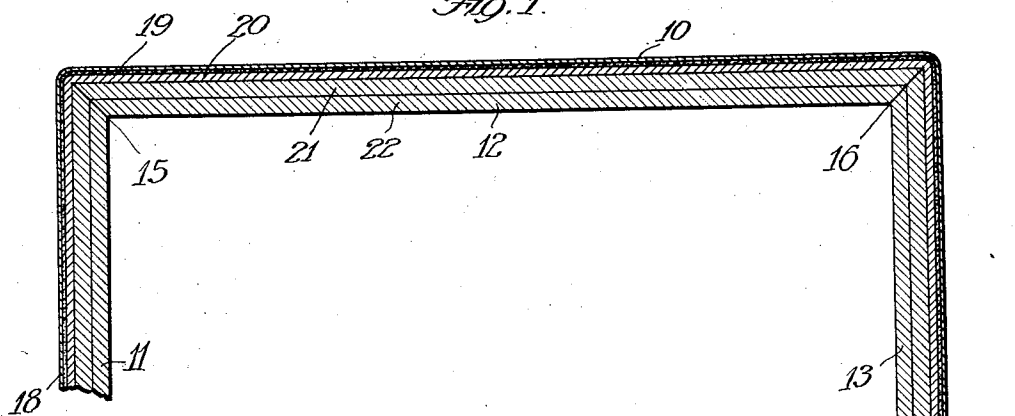
1,669,667

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METAL SHEATHED STRUCTURE

Filed June 22, 1927

Fig. 1.



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METAL-SHEATHED STRUCTURE.

Application filed June 22, 1927. Serial No. 200,548.

This invention relates to metal sheathed structures.

In the art relating to metal sheathed boards or panels wherein a steel sheet is glued to the flat surface of the panel, some difficulty has been encountered in successfully producing bends or corners in the panels where necessary, while preserving the continuity of the metal sheathing. A common practice has been to cut out the wood or other fibrous material of which the panel is composed from its surface opposite to that to which the steel sheet or veneer is attached down to the inner surface of the steel sheathing, and then bend the steel sheet to form the necessary corner. In this way the corner or angle may be formed, but a crevice is produced by the cut-out which renders the steel sheet accessible to moisture which may enter through the crevice, resulting in corrosion of the steel sheet and loosening of the glue bond between the inner surface of the steel sheet and the adjoining cut-out edges of the panel, and this disadvantage is especially marked when the metal veneered panel is used in the construction of refrigerators or the like where moisture is present in large quantities.

An object of this invention is to provide a structure in which corners or angular bends are produced in such manner as to insulate the inner surface of the steel sheet, and the glue bond, against the entrance of moisture, which is accomplished through the medium of a continuous protective layer of material which is placed next to the steel sheet and spans the cut-out which is necessary in forming the corner, and further, to interpose between the steel sheet and the protective layer of metal, a sheet of fabric which is co-extensive with the protective layer and assists the latter in its protective function, said fabric layer being of such character as to compensate for the different rates of expansion and contraction of the wood and metal sheet which tends to sever the bond therebetween.

Another object of the invention is to provide a corner construction in which the free meeting edges of the walls of the panel are secured in such manner as to insulate the joint from the inner side thereof to protect the steel sheets, and the bond between said

sheets and the adjacent portions of the panel walls.

In the drawings forming part of this specification, Figure 1 is a broken cross sectional view of a structure made up of a metal sheathed board or panel showing the corner constructions contemplated by this invention. Figure 2 is a fragmentary sectional view of a portion of the panel prior to the formation of a corner therein. Figure 3 is a cross sectional view of a portion of the panel showing the completed corner construction. And Figure 4 is a cross sectional view of a corner construction wherein the free edges of the panel are secured together.

As shown in the drawings, 10 designates as a whole a cross sectional fragmentary view of a rectangular structure, having walls 11, 12, 13 and 14, formed from a continuous veneered panel, the wall 12 being connected with the walls 11 and 13 by corner constructions indicated at 15 and 16, and the wall 11 being connected with the wall 14 by a corner construction similar to the corner constructions 15 and 16, while the free ends of the walls 13 and 14 are connected together by a corner construction 17.

The rectangular structure 10 is preferably made up from a single continuous panel of the desired length and width, and said panel prior to formation into the rectangular structure is flat. The panel as shown consists of a continuous sheet of steel of suitable gauge indicated at 18, a layer of fabric 19 disposed adjacent the steel sheet 18, a layer of wood 20, and other layers of wood 21 and 22, the layers 20, 21 and 22 being commercially obtainable already glued together. The fabric 19 is preferably of a character having a nap or pile, such as flannel, and is interposed between the layer 20 and the steel sheet 18, and the latter, the fabric and layer 20, are permanently bonded together by the inter-position of suitable adhesive substance such as glue, the fabric due to its peculiar nature having the function of compensating for the different rates of expansion and contraction of the wood and steel tending to sever the bond.

As before stated, the corner constructions 15 and 16, as well as the corner construction (not shown) between the walls 11 and 14,

are similar and a detailed description of one will suffice for the others. In forming each corner construction, the layers 21 and 22 are beveled as indicated at 23 and 240 in Figure 2, but the layer 20 is untouched. The layer 20 and fabric 19, and the steel sheet 18, are then simultaneously bent to provide curved portions 24, 25 and 26 respectively, so as to bring the beveled surfaces 23 and 240 together, forming a crevice indicated at 27, which, however, terminates at the integral bent portion 24 of the layer 20, and interposed between the integral bent portion 24 and the integral bent portion 26 of the steel sheet, is the integral bent portion 25 of the fabric. In this manner the continuity of the steel sheet 18 is preserved throughout, as well as the continuity of the fabric 19 and the adjacent layer 20 of the wood, and the crevice which is necessarily present due to the cut-out portions is prevented from affording access of moisture to the steel veneer or sheet 18 which cause corrosion thereof and loosen the bond between the steel sheet, the fabric, and the wood layers 20, 21 and 22.

The layers 20, 21 and 22 at the corner 17 are beveled as indicated at 28, and the fabric layer 19 has its opposite ends 29 and 30 overlapped. The free ends of the steel sheet 18 are provided with extensions 31 and 32 which are curled and inter-engaged to provide a seam indicated at 33 which secures the free ends of the panel together. In this arrangement the overlapping ends of the fabric prevent access of moisture from the inner surface of the panel to the seam 33.

While I have herein shown and described what I consider the preferred manner of carrying out the invention, the same is merely illustrative, and I contemplate all changes and modifications which come within the scope of the claims appended hereto.

I claim:

1. In a structure of the character described, comprising a metallic sheet having integral portions extending at an angle to each other, of a body portion comprising a

plurality of layers, certain of said layers remote from said metallic sheet being cut out to form a corner, and one of said layers extending continuously between said first layers and said sheet, and spanning the cut-out portions of said first layers, and a layer of fabric interposed between said continuous layer and said metallic sheet, said fabric being provided with a pile or nap to compensate for the different rates of expansion and contraction of said metallic sheet and said layers of material.

2. In a structure of the character described, the combination with a continuous metallic sheet having a plurality of corners formed therein; of a body portion of different material having parts secured to the inner surfaces of the angular portions of said metallic sheet, said parts having portions cut out at the corners; and insulating means interposed between said metallic sheet and the parts of said body portion, said means spanning the junctures of the cut out portions of the parts of the body portion at the various corners of the structure, the free ends of said metallic sheet being secured together by a seam at one corner, and said insulating means being interposed between said seam and the juncture of the parts of said body portion at said corner.

3. In a structure of the character described, comprising metallic portions extending at an angle to each other and having their free ends joined together to provide a corner; of body portions comprising a plurality of layers, each of said portions having their meeting edges abutting to provide a corner, there being fabric layer portions spanning the abutting edges of said body portions and the connected edges of said metallic portions, and being interposed between said metallic portions and the remaining layers of said body portions.

In witness that I claim the foregoing I have hereunto subscribed my name this 14th day of June 1927.

JOSEPH LEVINE.