

May 9, 1967

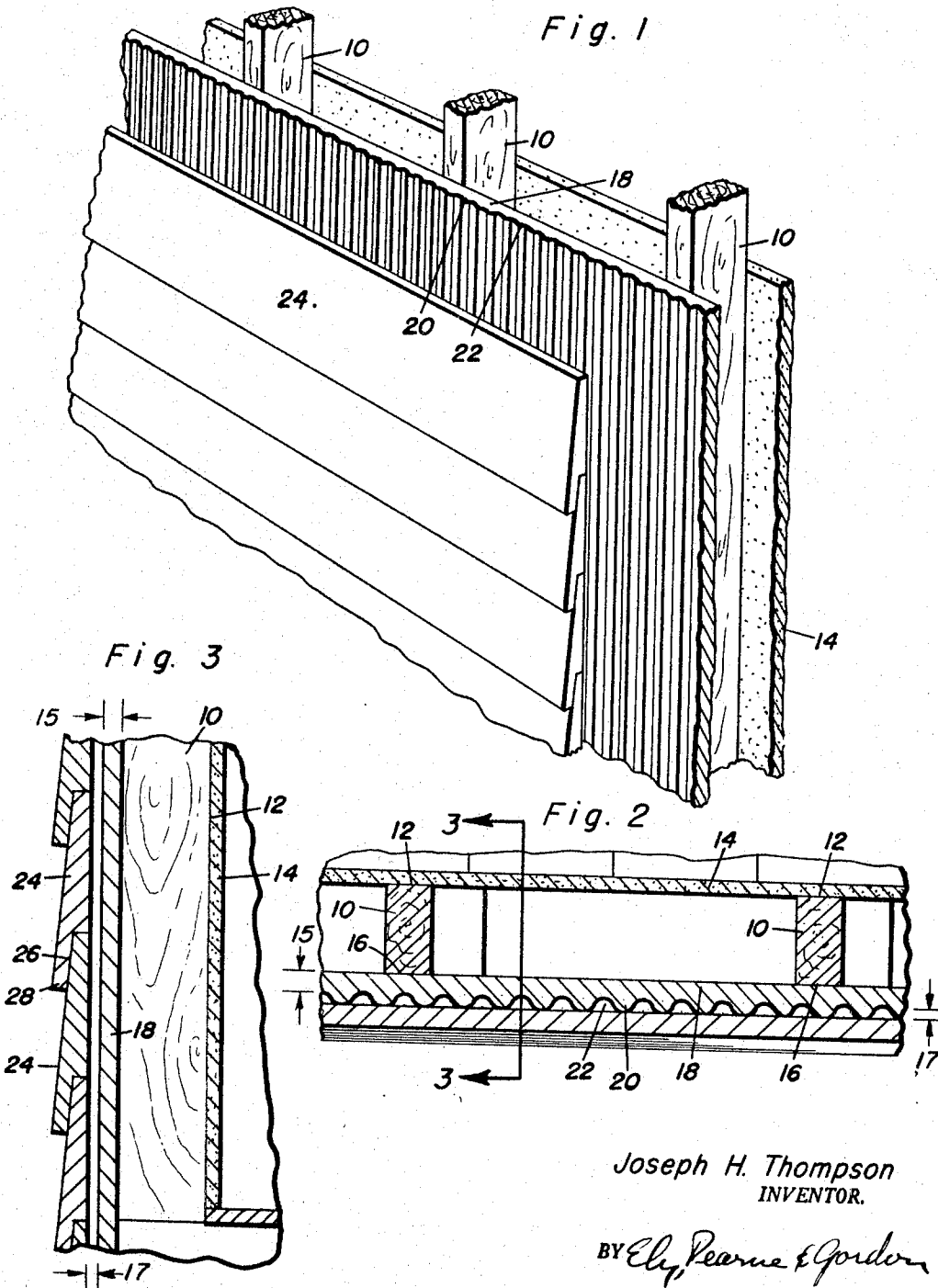
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3,318,056

VENTILATING WALL CONSTRUCTION WITH STUD LOCATION INDICATORS

Filed March 25, 1957

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

Fig. 4

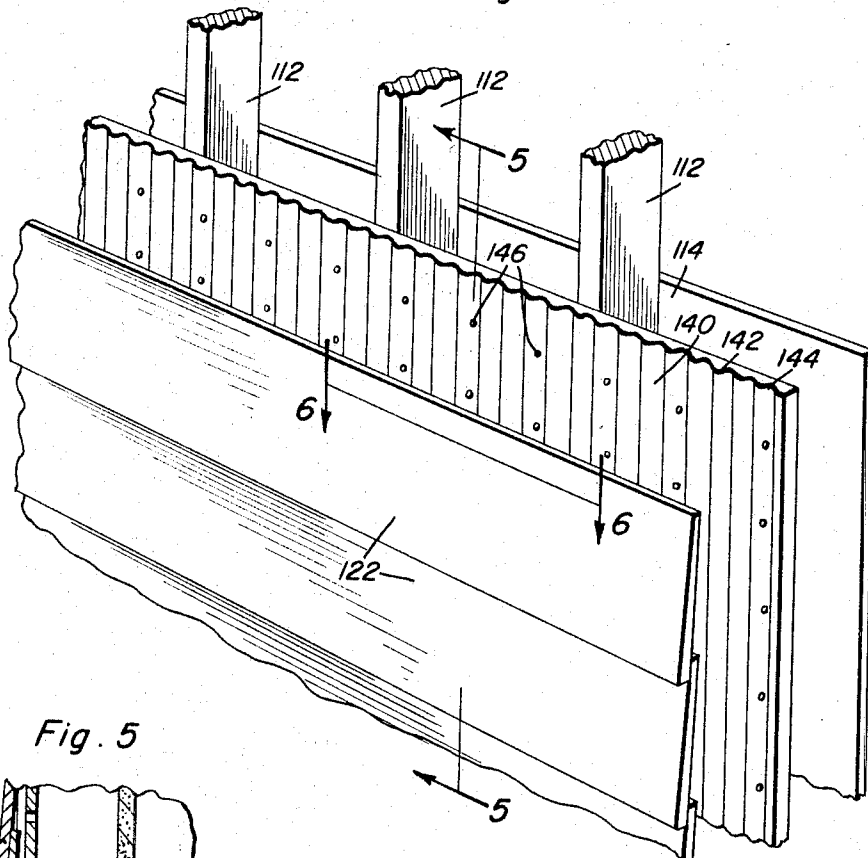


Fig. 5

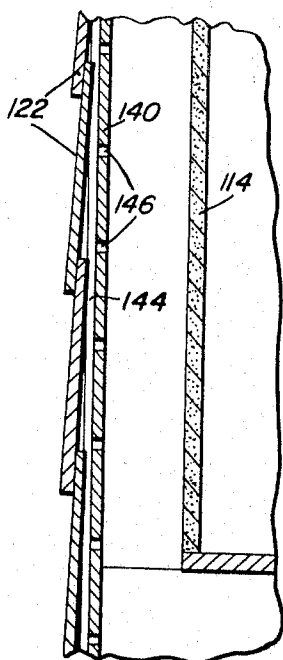
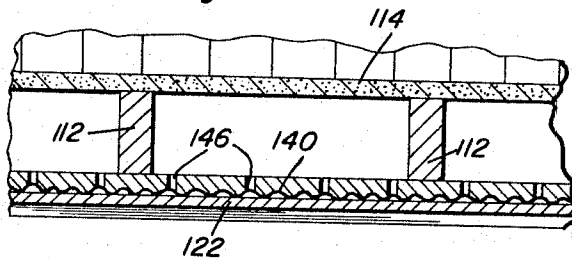


Fig. 6



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3 Sheets-Sheet 3

Fig. 7

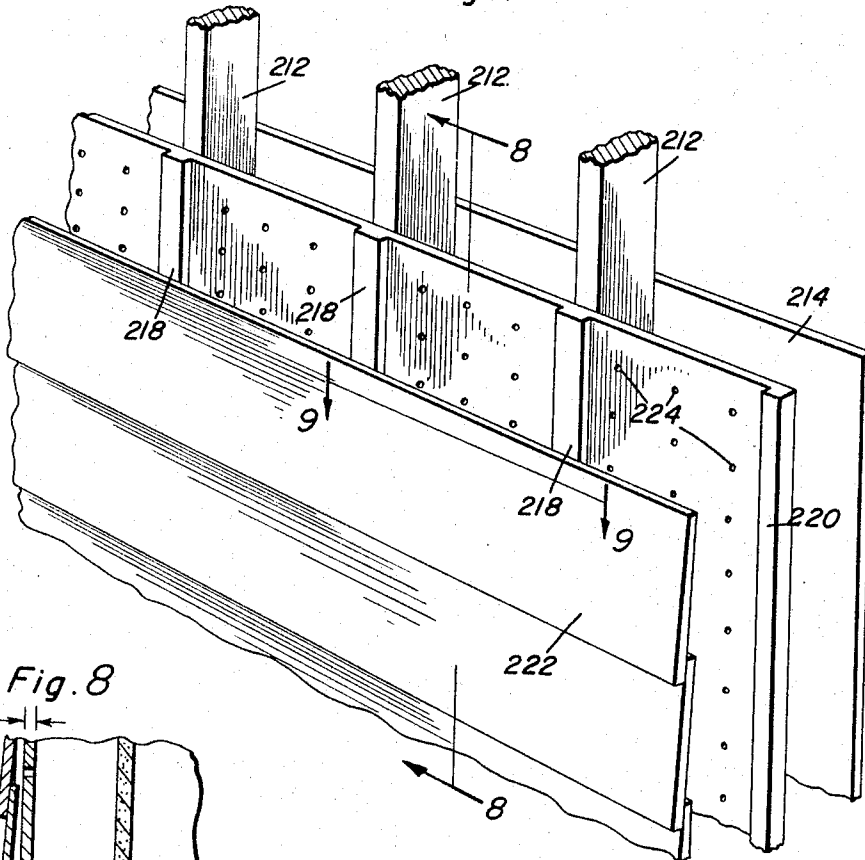


Fig. 8

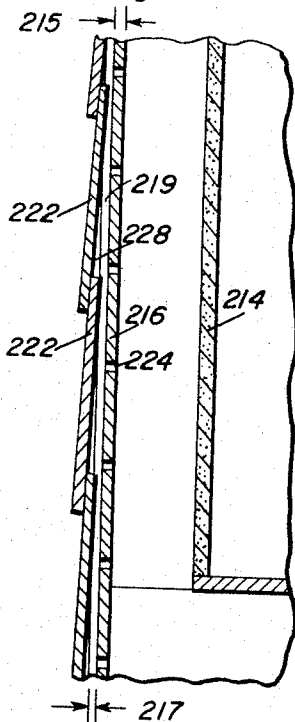
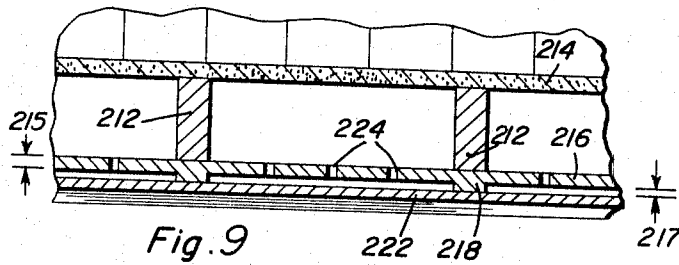


Fig. 9



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## VENTILATING WALL CONSTRUCTION WITH STUD LOCATION INDICATORS

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 Filed Mar. 25, 1957, Ser. No. 648,150  
 1 Claim. (Cl. 52-105)

This application is a continuation-in-part of copending application Ser. No. 344,070 filed by me Mar. 23, 1953, for "Building Material," and now abandoned in favor of this application, and this application is also a continuation-in-part of copending application Ser. No. 595,236 filed by me July 2, 1956, for "Building Materials," and now abandoned in favor of this application.

This invention relates to building material and more particularly to an application of building material in wall construction to prevent condensation between sheathing and siding in frame buildings.

An object of the invention is to reduce or eliminate the flaking of paint on exterior siding due to moisture content within the wall.

It has heretofore been frequently suggested that wall interiors be ventilated as by vent holes and the like in order to minimize or prevent paint flaking due to moisture condensation within the wall. Some such venting arrangements have worked in limited applications, but in general they have not been satisfactory because it is not possible to adequately ventilate the walls by such means without defacing the wall due to the necessarily large number and large size of the vent openings.

A more particular object of the invention is to provide for thorough wall ventilation by means which contributes little, if any, to the cost of wall construction and which is very effective without defacing the wall.

The invention embodies the concept of providing sheathing material which is vertically ridged and adapted to be secured on the outer side of the wall studding to define vertically extending ventilating paths between the ridges, the ridges being on the outer side of the sheathing and supporting exterior siding in such a relationship that the exterior siding does not block the vertically extending ventilating paths. Through the provision of such sheathing, the wall may be constructed so that the vertically extending ventilating paths are substantially clear through their vertical extents and communicate with the exterior of the wall at the top and bottom thereof.

Buildings of frame construction may be insulated by application of suitable insulation materials between the exterior siding and the interior surfacing material of the building. This insulation may be located between the studs and immediately between (1) the interior surfacing material of the building and (2) the sheathing which is on the outer side of the studs but on the interior side of the exterior siding. While such insulation is usually highly effective in reducing transfer of heat through the wall, it may in fact provide means for permitting the passage of moisture from the exterior siding to the interior surfacing material. The provision of vertically ridged sheathing material in accordance with the present invention allows moisture, which is formed due to condensation or penetration of the exterior siding, to be effectively drained to preserve the interior surfacing of the building.

All these advantages are realized at negligible extra cost with negligible effect on the performance of the wall as a shelter against the weather and as a heat-retaining or heat-excluding closure.

Still further aspects of the invention reside in the provision of a building construction that is as strong and as simple to erect as any conventional wall structure, and that lends itself to conventional erection techniques so that

any competent carpenter can erect it as readily as he can conventionally sheathed walls. The invention includes the embodiments of novel sheathing formed of any suitable material. By way of example, several aspects of the invention are illustrated in the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a portion of a wall construction in accordance with the concepts of the present invention.

FIGURE 2 is a horizontal sectional view illustrating in greater detail the relative relationship of the elements as shown in FIGURE 1.

FIGURE 3 is a vertical sectional view, taken along the plane of line 3-3 in FIGURE 2.

FIGURE 4 is a partial perspective view of another wall construction in accordance with the concepts of the present invention.

FIGURE 5 is a vertical sectional view as taken along the plane of line 5-5 in FIGURE 4.

FIGURE 6 is a horizontal sectional view as taken along the plane of line 6-6 in FIGURE 4.

FIGURE 7 is a partial perspective view of still another wall construction in accordance with the concepts of the present invention.

FIGURE 8 is a vertical sectional detailed view as taken along the plane of line 8-8 in FIGURE 7.

FIGURE 9 is a horizontal sectional view as taken along the plane of line 9-9 in FIGURE 7.

In FIGURES 1-3 of the accompanying drawings, reference numeral 10 designates studding which may be comprised, as is conventional, of vertically extending pieces of lumber. Secured to the inner surface 12 of the studding 10 is any suitable interior surfacing 14 which may be gypsum board, plasterboard, rock lath or the like on which suitable coatings of plaster, paint, or wallpaper may be applied to provide an ornamental interior finishing.

On the outer side of the studding 10 there is provided suitable sheathing 18. The outer face of this sheathing is provided with alternate ridges 20 and ventilating paths 22, which are between the ridges and extend vertically. The sheathing has a continuous inner zone 15 (FIGURES 2 and 3) and also transversely discontinuous outer zone within which are located the ridges 20, this latter zone being indicated by the reference numeral 17. Courses of siding 24 are suitably secured in overlying relationship relative to the sheathing 18. The courses of siding 24 may be tapered upwardly as is conventional and may be provided with recesses 26 in the lower inner portions thereof so as to permit the lower outer portion 28 of one piece of siding to overlap the next lower piece of siding 24. It is particularly to be noted that the courses of siding may be of constant conventional cross-section and that the invention does not require that siding be fabricated in any special and costly shape of irregular cross-section.

The sheathing or insulating board 18 may comprise any suitable conventional material. The exterior siding 24 is outwardly spaced from the continuous inner zone 15 and is supported by the ridges 20 in non-blocking relationship with the vertically extending ventilating paths 22, the ridges 20 having sufficient body and strength to effect such support.

The ventilating paths 22 are closed off neither at their lower or upper ends, but are allowed to communicate with the wall exterior. This is the case in the section of wall illustrated in FIGURES 1-3 and also in the walls illustrated in the other figures. The illustrated sections of walls may be extended to any desired height or area and may extend between suitable footing structure and eave structure or other header structure, but the exterior siding is not sealed to or wedged against foot or header

structure to cut off communication of the paths 22 with the exterior of the wall.

In the wall shown in FIGURES 4-6 there is provided studding 112. The studding 112 has any suitable interior surfacing 114 secured thereto, such as plasterboard, lathing, plaster or the like. The exterior siding 122 of the wall is mounted in overlying relationship on sheathing 140. The sheathing 140 has a plurality of vertically extending ridges 142 which are within a transversely discontinuous outer zone corresponding to the zone 17 of FIGURES 1-3. Ridges 142 support the exterior siding in spaced relationship from the continuous inner zone of the sheathing 140, which zone corresponds to the zone 15 of FIGURES 1-3. It will be seen that the structure shown in FIGURES 4-6 is similar to the structure illustrated in FIGURES 1-3, however, the siding 122 shown in FIGURES 4-6 does not have recesses equivalent to the recesses 26. Furthermore, the sheathing 140 is provided with apertures or passages or openings 146 which communicate between the exterior side of the sheathing and the interior side thereof. Preferably the apertures 146 extend into the vertically extending paths 144 which will be understood to correspond to the paths 22. It will be understood that the spaces between the sheathing 140 and the interior surfacing 114 are vented through the apertures 146.

In the example of the invention shown in FIGURES 7-9 there is provided studding 212, which studding may be erected with the normal distance between centers of 16 inches. Obviously, the invention may be adapted for use in connection with other given conventional distances between centers, but building codes, trade conventions and the like generally specify a 16-inch spacing between centers. The studding 212 has interior surfacing 214 supported on its inner side, such as plasterboard, lathing, plaster or the like. Sheathing 216 is secured to the outer side of the studding 212. The exterior siding of the wall is indicated by the reference numeral 222 and is supported on the sheathing 216 by means of the vertically extending ridges 218 formed on the outer side of the sheathing 216. In a normal 4 foot by 8 foot sheathing board with 16-inch spaces between the projections 218, there will be five full projections of approximately 2-inch width substantially corresponding to the width of the studs 212 assuming that they have conventional 2 x 4 dimensions. The projections 220 will be approximately 1 inch wide so that when sheets of sheathing 216 are arranged in abutting relationship, adjoining edges may readily be secured to a single stud 212. The sheathing 216 will be seen to have a continuous inner zone 215 and also a transversely discontinuous outer zone within which are located the ridges 218, this latter zone being indicated by the reference numeral 217.

The sheathing or insulating board 216 may comprise any suitable sheathing board material including the conventional materials which are well known to the art. The exterior siding 222 is outwardly spaced from the continuous inner zone 215 and is supported by the ridges 218. The non-blocking relationship with the vertically extending ventilating paths is indicated by the reference numeral 219, such paths being in this case relatively wide and being defined by the adjacent pairs of vertically extending ridges 218. The sheathing 216 may be provided with apertures 224 which may be seen to correspond to the apertures 146. Since the siding shown in these drawings is not provided with recesses similar to the recesses 26 in FIGURE 3, there are formed spaces 228 which, however, communicate directly with the vertical passages 219.

In the embodiments shown in FIGURES 4-6, there are also spaces similar to the spaces 225, which spaces shown in the embodiment of the FIGURES 4-6 communicate directly with the vertically extending paths 144 defined on the outer face of the sheathing 140.

The ventilating paths 144 and 219 are closed off neither at their lower nor upper ends but are allowed to communicate with the wall exterior. As previously mentioned, the illustrated sections of wall may be extended to any desired height or area and may extend between suitable footing structure and eave structure or other header structure, but the exterior siding is not sealed to or wedged against foot or header structures to cut off communication of the paths 144 or 219 with the exteriors of the respective wall structures.

In the embodiment shown in FIGURES 7-9, the spacing of the ridges the same distance between centers (usually 16 inches) as is the studding in connection with which the sheathing is to be employed serves to aid in locating the individual studs when nailing the sheathing to the studding.

It will be understood that suitable insulation or moisture or vapor barrier webs or papers or other building papers or asphalt papers or other material similar or equivalent to the web materials mentioned may be provided between the interior surfacing materials of the wall and the studding or between the studding and sheathing or at other locations consistent with the practice of the invention. In some instances, depending on the locations of such barrier webs, it may be desired to perforate them either before or after installation in order not to cut off the venting furnished by passages or spaces such as apertures 146 or 224.

The foregoing discussion is intended to be illustrative only. The scope of the invention is not limited to all the precise details of the examples described above.

What is claimed is:

A building construction comprising in combination with studding having interior surfacing materials secured to the inner surface thereof, an insulative exterior sheathing secured to the outer surface of said studding, said sheathing having a plurality of apertures extending therethrough, said sheathing having vertically extending projections spaced from said apertures, said projections being of the same width as and spaced in alignment with said studding providing a visual indication of the location of said studding, siding positioned against said sheathing, and fasteners securing said siding to said studding extending through said projections.

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