United States Patent [19]

Johnson

[11] **3,774,364**

[45] **Nov. 27, 1973**

[54] **COVERING FOR MOBILE HOME TRAILERS**

[76] Inventor: **Eric C. Johnson,** 2930 Colorado Cove, Santa Monica, Calif.

[22] Filed: **Dec. 9, 1971**

[21] Appl. No.: **206,398**

[52] **U.S. Cl.** ..... **52/509,** 52/23, 248/361 R

[51] **Int. Cl.** **E04b 1/74**

[58] **Field of Search** ..... 52/509, 2, 3, 5, 52/4, 23, 222; 248/361 R, 361 A

[56] **References Cited**

UNITED STATES PATENTS

2,455,237	11/1948	Davis	52/3 X
2,666,840	1/1954	Poirier	52/3 X
3,296,755	1/1967	Chisholm	52/3 X
3,548,904	12/1970	Mackell	52/3 X
3,556,448	1/1971	Dobbs	248/361 R X

FOREIGN PATENTS OR APPLICATIONS

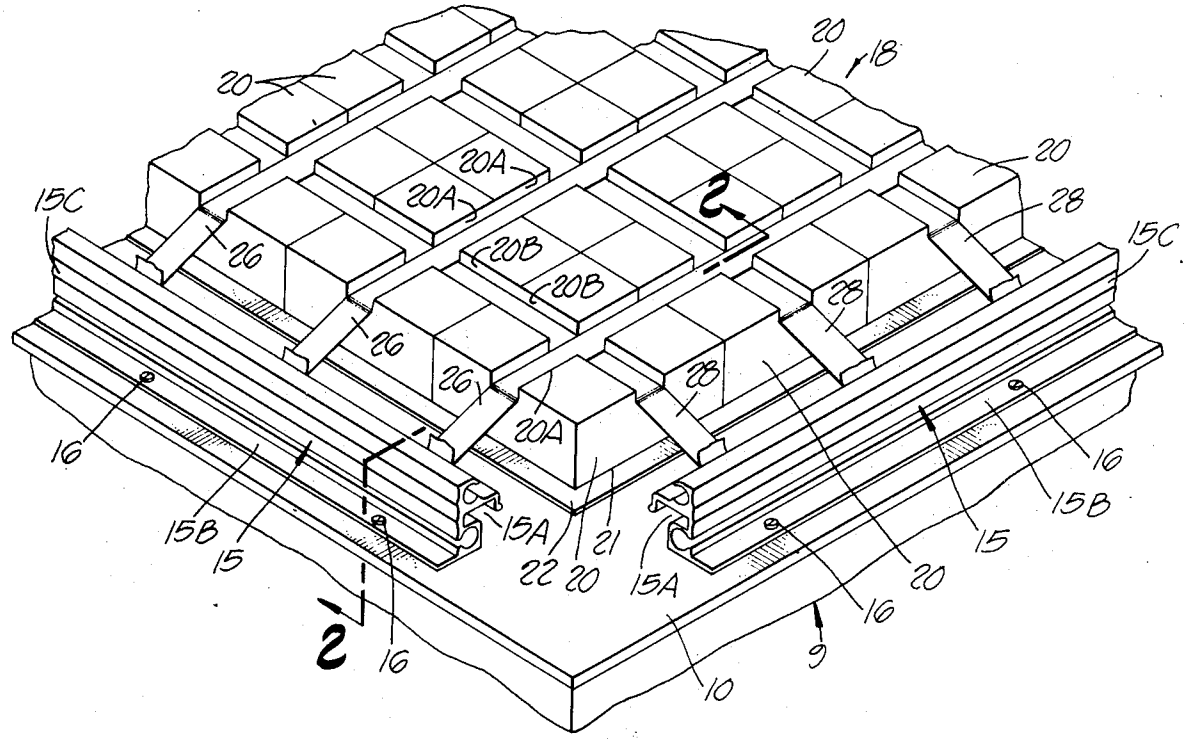
197,560	5/1958	Austria	52/3
941,466	11/1963	Great Britain	52/86
1,509,126	5/1969	Germany	52/309

Primary Examiner—Price C. Faw, Jr.
Attorney—Charles G. Lyon et al.

[57] **ABSTRACT**

Heat or cold and sound and condensation insulation for mounting on planar surfaces such as, for example, the roof of a trailer home, comprises a series of abutting blocks of closed cell polystyrene which have their lower surfaces cemented to a poly-vinyl-chloride base. The upper exposed surfaces of such blocks are grooved to accept flexible fastening belts or straps which have their ends releasably secured to rails mounted on the roof.

5 Claims, 5 Drawing Figures



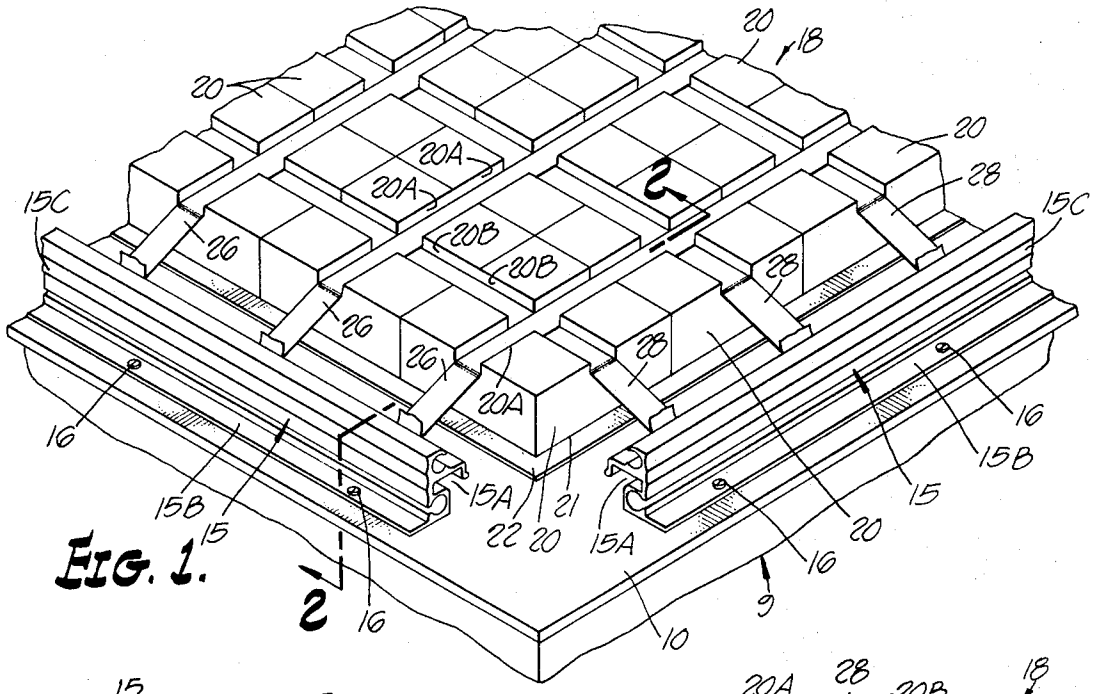


FIG. 1.

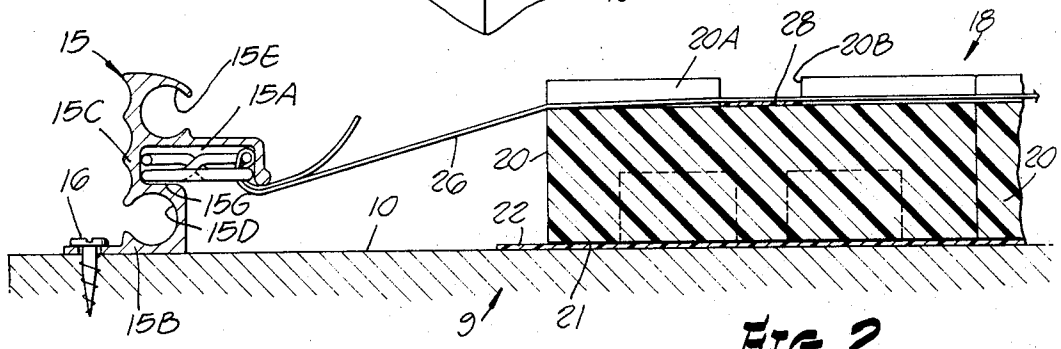
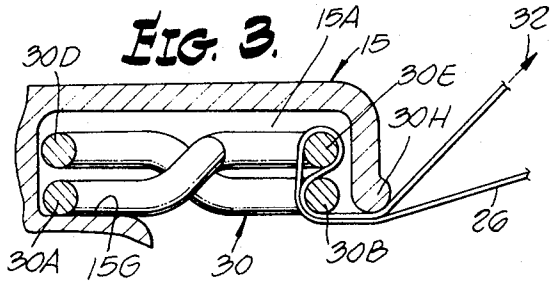


FIG. 2.

FIG. 3.



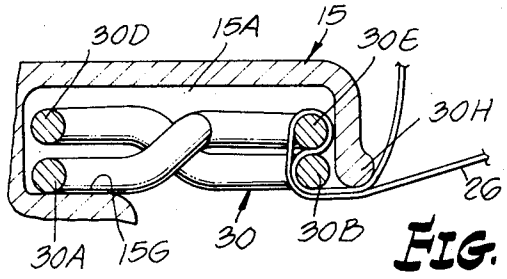


FIG. 4.

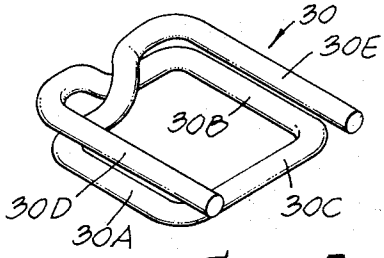


FIG. 5.

COVERING FOR MOBILE HOME TRAILERS

The present invention relates to means and techniques useful in heat or cold and sound and condensation insulating structures such as, for example, mobile homes.

An object of the present invention is to provide arrangements for effectively heat or cold and sound and condensation insulating structures inexpensively and expediously.

A specific object of the present invention is to provide an improved arrangement for insulating mobile homes and the like and which in use satisfactorily withstands the experiences encountered by the same in their use.

Another specific object of the present invention is to provide an arrangement of this character which may be easily and readily applied, removed and replaced by relatively unskilled persons to meet their specific needs and particular conditions.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. This invention itself, both as to its organization and manner of operation, together with further objects and advantages thereof, may be best understood by reference to the following description taken in connection with the accompanying drawings in which:

FIG. 1 is a perspective view of a portion of a roof structure embodying features of the present invention.

FIG. 2 is a section taken substantially on line 2—2 of FIG. 1.

FIGS. 3 and 4 show in enlarged form some of the structure shown in FIG. 2 and serve to illustrate steps of securing one of the many like fastening bands.

FIG. 5 is a perspective view of a fastening element which is also illustrated in FIGS. 2, 3 and 4.

The invention is illustrated in connection with a mobile home trailer, a portion of the roof 9 of which has its upper surface designated by the reference numeral 10, but it is understood that the invention in its broader aspects is applicable for heat insulating other structures in which a substantially planar surface such as, for example, the planar surface 10, exists.

Four metal fastening rails, each of the character illustrated at 15, are secured to the roof using sheet metal screws 16, and such four rails (two only of which are shown in FIG. 1) define generally a rectangular area which is covered by heat insulating structure 18 comprising essentially a plurality of blocks 20 of closed cell polystyrene foam each cemented by cement 21 or otherwise secured to a base sheet 22 of, for example, a plastic material such as poly-vinyl-chloride.

These individual blocks 20 are each generally rectangular and have perpendicularly extending and intersecting grooved portions 20A, 20B formed in the upper side thereof. Corresponding grooved portions 20A, 20B of adjacent blocks 20 are aligned in the process of cementing such blocks 20 to the common base sheet 22 in abutting relationship so as to achieve a grid of extended grooved portions through which a first series of spaced fastening bands or straps 26 of flexible material such as, for example, fibre glass may extend in one direction and likewise, a second series of like intersecting bands or straps 28 of like material may extend.

The ends of such bands or straps 26, 28 are releasably secured in a manner illustrated and now described in connection with FIGS. 2–5.

Heavy gauge wire is bent in the form illustrated in FIG. 5 to form a fastening element 30 that includes in general a bottom loop portion having parallel extending leg portions 30A, 30B jointed by intermediate leg portion 30C and extending above and parallel with such leg portions 30A, 30B are corresponding end portions 30D, 30E.

The element 30 is insertable in a pocket portion 15A of rail 15 which may be a metal extrusion having a base portion 15B, with an upwardly extending portion 15C defining this pocket 15A between upper and lower generally circular grooved portions 15D, 15E having their openings on opposite sides of upwardly extending portion 15C. These openings 15E, 15D may be used for other purposes.

The pocket portion 15A is generally rectangular having its opening extending downwardly towards the base portion 15B and includes a ledge portion 15G which as seen in FIG. 2 is of lower elevation than is the bottom of grooved portion 20A so that when the end of a band 26 is wrapped, in turn, around leg portion 30B, around leg portion 30E and then again around leg portion 30B and subsequently such band end is drawn taut as indicated by the arrow 32, the leg portion 30A resiliently pressed against the ledge 15G to secure the assembly to the roof 9. In those instances when it is desired to release this connection, pressure may be exerted in the downward direction on the tensioned band 26 of such intensity to cause the element to pivot or move downwardly a distance sufficient to lower the leg portion 30E below the rounded lip portion 30H in which case the tension in band 26 pulls the element 30 with the band 26 attached thereto out of pocket portion 15A.

While the particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from the invention in its broader aspects and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of this invention.

I claim:

1. A heat or cold and sound and condensation insulating structure including a flexible base sheet, insulating material secured to said base sheet and having an outer surface, open ended grooved portions in said surface comprising a first series of parallel spaced grooved portions and a second series of parallel spaced grooved portions extending perpendicular to the grooved portions of said first series and intersecting the same, fastening straps extending through each of said first and second series of grooved portions, an means securing the ends of said straps under tension.

2. The combination as set forth in claim 1 in which said means includes a rail member having a pocket portion, and a strap clamping element releasably secured in said pocket portion.

3. The combination as set forth in claim 1 in which said strap clamping element is wire material bent in the form of a U-shape to define the parallel extending leg portions of said U-shape and the ends of said wire are extended and bent to provide a pair of open ended leg portions which extend parallel to each other and also parallel to the first-mentioned leg portions with a corresponding one of said pair of leg portions being spaced from a corresponding adjacent one of the first-mentioned leg portions a distance substantially equal to

the thickness of one of said fastening straps to allow such strap to be wrapped around said adjacent leg portions.

4. The combination as set forth in claim **3** including a building structure having a generally planar surface, said rail member and said insulating structure being mounted on said planar surface, said pocket portion having an internal ledge portion which is spaced from said planar surface a distance substantially less than the

spacing between said planar surface and the bottom of said grooved portions, and said ledge portion being contacted by said one of said leg portions which is spaced away from those leg portions around which the strap is wound.

5. The combination as set forth in claim **4** in which said planar surface is the roof of a mobile home or the like.

* * * * *