Aug. 29, 1961 K. H. BURGIN 2,998,112

DEMOUNTABLE BUILDING INNER LINER

Filed April 14, 1958

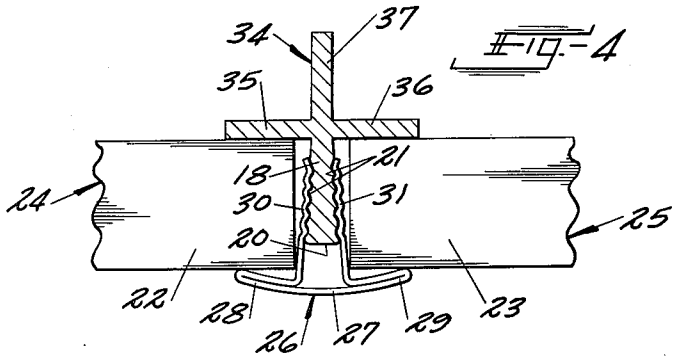

FIG. 4

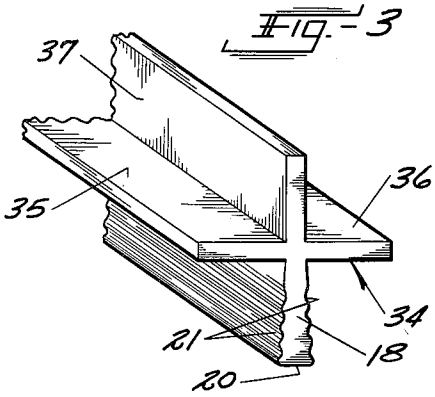

FIG. 3

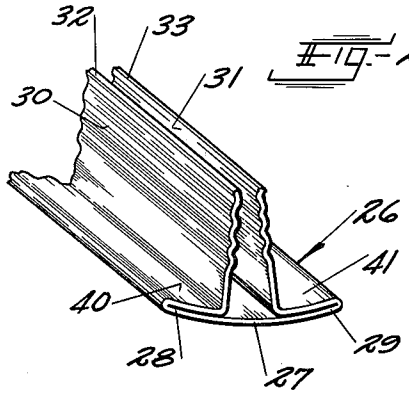

FIG. 2

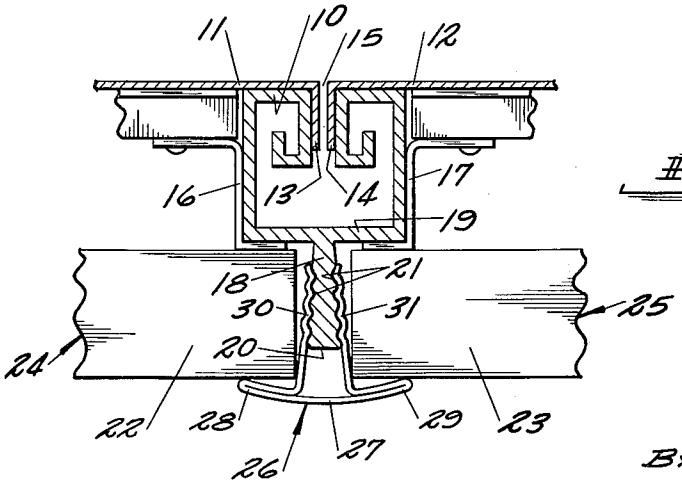

FIG. 1

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DEMOUNTABLE BUILDING INNER LINER

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This invention relates to means for removably securing in place an inner lining of a demountable metal building structure of the type shown in my copending application Serial No. 445,545 on which Patent No. 2,832,445 issued April 29, 1958.

The building structure is based upon a number of posts **10** which receive outside panels **11** and **12** across the outer face, and from which panels inturned flanges **13** and **14** enter a slot **15** in a post **10**. These panels **11** and **12** are removably attached to the post **10** by latch members **16** and **17** which are rockably carried by the panels **11** and **12** and engage over the inside of the post **10**.

The invention contemplates lining a building wall or a ceiling wherein such a wall type construction is employed. The invention is equally as well applied to a ceiling as it is to the side walls of this type of building.

It is the primary purpose of the invention to provide means for mounting and retaining inside wall panels generally of an insulating nature in such manner that these inner panels will be securely held in place to provide a continuous ceiling or wall as the case may be and at the same time permit these panels to be removed when the building is to be disassembled.

A further important object of the invention is to provide a securing means which will consist of a member integrally carried by either a post or by a ceiling cross member, and to which a yielding, frictional engaging device may be applied to in turn engage over the inside faces of the liner panels.

These and many other objects and advantages of the invention will become apparent to those versed in the art in the following description of one particular form, reference being made to the accompanying drawing, in which:

FIG. 1 is a detail in transverse horizontal section through a wall supporting post and embodying the invention;

FIG. 2 is a view in perspective of a fragmentary length of the inner panel retaining means;

FIG. 3 is a view in perspective of a ceiling supporting member; and

FIG. 4 is a view in vertical section through a ceiling supporting member to which the invention is applied.

Referring to the application of the present invention to the side wall, FIG. 1, there is a post **10** vertically disposed, and across the outer sides of which overlap adjacent panel end portions **11** and **12**. From these end portions **11** and **12**, there extend flanges **13** and **14** respectively into a slot **15** entering from the outer face of the post **10**. These panels **11** and **12** are held in compressive engagement against the post **10** by any suitable means, such as by the latches **16** and **17** carried by the panels **11** and **12** respectively engaging over the inside face of the post **10**.

To that structure is applied my present invention. Post **10** is provided with a rib **18** extending normally from the central portion of the inside face **19** of the post **10**. This rib **18** tapers from a transverse width at the face **19** to a maximum width at the outer end **20**. This taper is preferably on the order of a width of one-sixteenth of an inch at the face **19** to a width of one-eighth of an inch at the outer end **20**. The opposite sides of the rib **18** are provided with corrugations **21**. The extent of the rib **18** from the face **19** is made to be less than the maximum thickness of panels to be supported against the post **10**. Normally this thickness would not exceed in any event five-eighths inch, and most generally a lesser thickness of panel would be employed.

As indicated in FIG. 1, end portions **22** and **23** of panels **24** and **25** respectively are shown as being vertically disposed and lying against the overlapping portions of the latches **16** and **17** which intervene between the post face **19** and the back sides of the panels **24** and **25**. Of course in some instances, the panels **24** and **25** may bear directly by their end portions **22** and **23** against the face **19**. In any event, these panel ends **22** and **23** overlap the face **19** on respective sides of the central rib **18** which is understood to extend longitudinally the entire length of the inside of the post **10**.

A securing member generally designated by the numeral **26**, FIG. 2, is made to have a head **27** from which wings **28** and **29** extend laterally from spaced apart corrugated flanges **30** and **31** extending from the back side of the head **27**. These flanges **30** and **31** are inclined one toward the other to have their free ends **32** and **33** in close proximity one with the other. The flanges **30** and **31** at least are made out of a spring-like metal so that they may be yieldingly spread apart.

This member **26** may be made in discrete lengths less than the height of the inside of the wall to be erected from panels **24** and **25**, or may be made in a continuous length from a floor to a ceiling. In any event, the member **26** is entered over the ends of the panel portions **22** and **23** to have the flanges **30** and **31** straddle the rib **18** and pass downwardly on the outer sides thereof. The head **27** by means of its wings **28** and **29** is pressed firmly against the faces of the portions **22** and **23**, FIG. 1, to have the flanges **30** and **31** engage along the corrugations **21** of the rib **18** and retain the wings **28** and **29** in compressive engagement against those portions **22** and **23** to in turn urge the end portions of the panels toward the face **19** of the post **10**. By reason of the flanges **30** and **31** being inclined one toward the other toward their free ends, they are readily spread apart to pass over the outer portion of the rib **18**, the widest portion, and then spring back over the corrugations so that the corrugations of the flanges **30** and **31** provided longitudinally thereof will engage firmly and snugly with the corrugations **21** of the rib. The corrugations plus the tapered effect of the rib **18** firmly retain the retaining member **26** and thus securely hold the inner panel members **24** and **25** snugly in place. By prying the member **26** outwardly, the members **24** and **25** can be released for removing them either for repairs or for replacement or in case the building is to be demounted.

A similar structure is employed to hold panels **24** and **25**, that is like panels, through their adjacent end portions **22** and **23** firmly against ceiling supporting members generally designated by the numeral **34** which may be a duplicate of the post **10** with the rib **18** turned downwardly, or as herein shown in FIG. 4, by the member **34** specifically which has a generally cross, transverse section with the rib **18** depending therefrom, extending downwardly centrally between the two side flanges **35** and **36**, and from between which there is a rib **37** extending vertically. The vertical rib **37**, while not herein shown as having other members attached thereto, serves very well for attaching members constituting a truss if so desired to support the member **34** across wide spans.

In any event, in the ceiling structure, FIG. 4, the same retaining member **26** is employed to have the wings **28** and **29** come up under the panel end portions **22** and **23** and urge them against the flanges **35** and **36** by means of the retainer flanges **30** and **31** engaging the rib **18** and entering corrugations extending longitudinally on each side of the rib **18**.

In this manner, the end portions **22** and **23** are snugly

urged and retained against the undersides of the supporting member **34**, specifically along the undersides of the flanges **35** and **36**. Normally the supporting member **34** in the ceiling, and the post **10** in the side walls, would be spaced apart in each instance the more or less standard width of four feet of the panels **24** and **25** so that the extent of the panel between supporting members is relatively small. Therefore the retaining means **26** in conjunction with the tapered rib **18** is entirely adequate and sufficient to support the panels. In fact, the support may be had by employing smooth faced flanges **30** and **31** and smooth faced sides of the rib **18** so long as there is a taper in the rib **18** as above indicated. However to insure against accidental displacement, it is preferred that the corrugations be employed not only in the retaining member **26**, but also on the respective sides of the rib **18**.

While I have herein shown and described my invention in the one particular form, it is obvious that structural changes may be employed particularly in the shaping of the head of the retaining member **26** without departing from the spirit of the invention. As indicated in FIG. 2, the head **27** in this one specific form is made to have the wing sections formed of an underlapping section of the head metal proper designated by the numeral **40** on the one side and **41** on the other side, these sections **40** and **41** being folded from the outer longitudinal edges of the head **27** and carried back inwardly thereunder, and from these metal portions **40** and **41** extend the flanges **30** and **31**, all in an integral manner. Structural changes deviating from the description of the invention may be employed within the limitations of the following claim.

I claim:

A device for securing ends of panels to an intervening member comprising a rib extending longitudinally along said member and toward which said panel ends are directed; said rib having a truncated isoceles triangular cross-section with the base thereof spaced from said member; a plurality of closely spaced corrugations extending longitudinally along the sides of the rib; and a retainer engageable over said rib and comprising an elongated head, a pair of elongated elastic flanges carried by the head in spaced apart relation, said flanges extending from the head and inclined one toward the other to free ends in close proximity one with the other, and each of said flanges having longitudinal corrugations conforming to the corrugations along said rib sides; said retainer, when engaged over said rib, lapping along said rib sides with said flanges following the inclined sides of the ribs with said flange ends being spaced closer together than are the flanges at said head, and upon withdrawal of the retainer from said rib, the flange and rib corrugations causing the flanges to spread apart and snap one toward the other progressively resisting withdrawal by step by step increasing pressure grip of the flanges on the rib sides by reason of the spreading apart of the flange ends throughout the travel from those sides.

References Cited in the file of this patent

UNITED STATES PATENTS

582,307	Orr	May 11, 1897
1,987,498	Stolp	Jan. 8, 1935
2,894,298	Stahl	July 14, 1959

FOREIGN PATENTS

1,105,961	France	July 13, 1955