

Dec. 10, 1946.

A. L. JACKSON

2,412,404

WALL STRUCTURE FOR BUILDINGS AND THE LIKE

Filed Dec. 16, 1944

2 Sheets-Sheet 1

fig. 1.

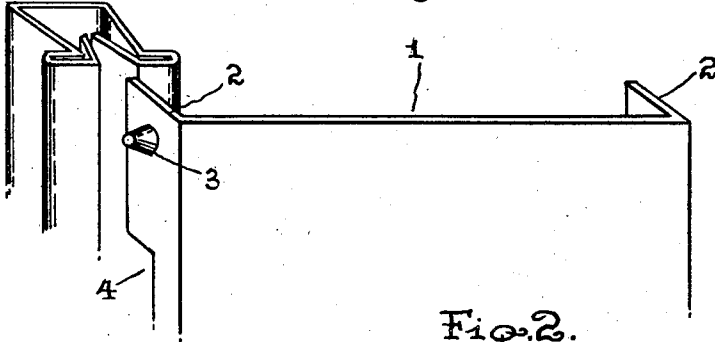


Fig. 2.

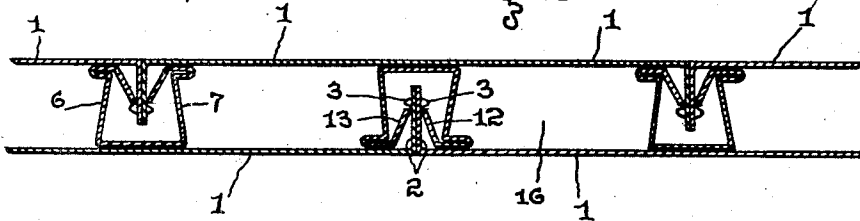


Fig. 3.

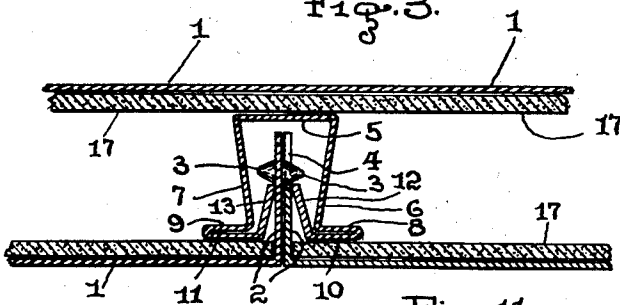


Fig. 4.

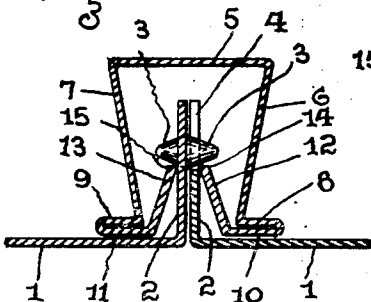
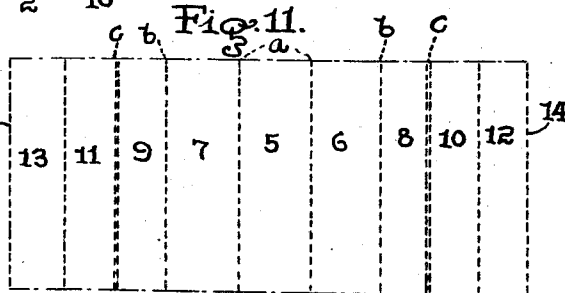


Fig. 11.



INVENTOR.
ALFRED L. JACKSON

BY

Blair S. Ashley
ATTORNEY

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Fig. 5.

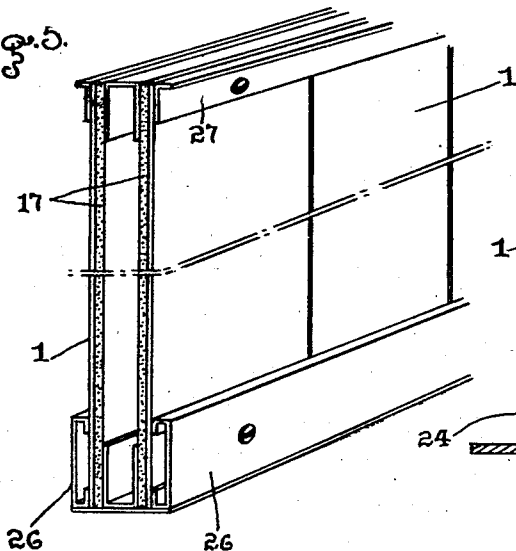


Fig. 6.

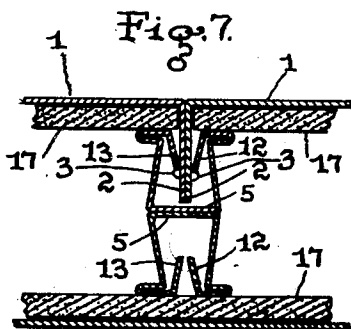
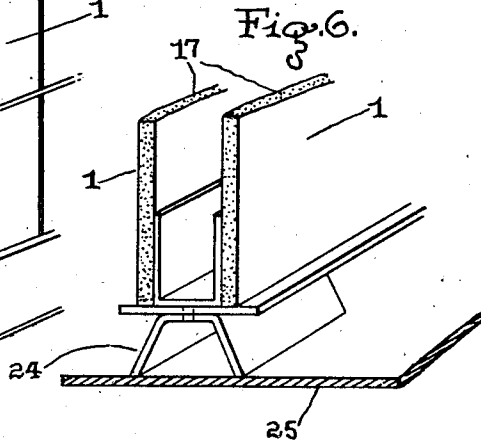


Fig. 8.

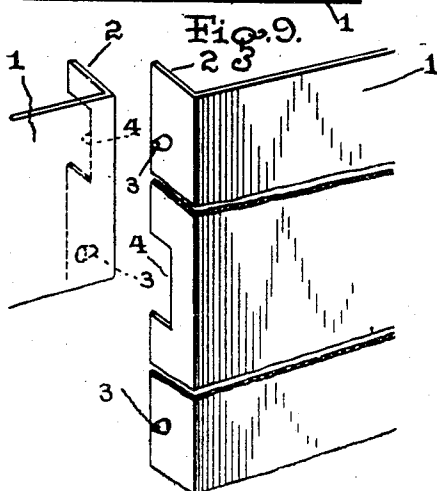
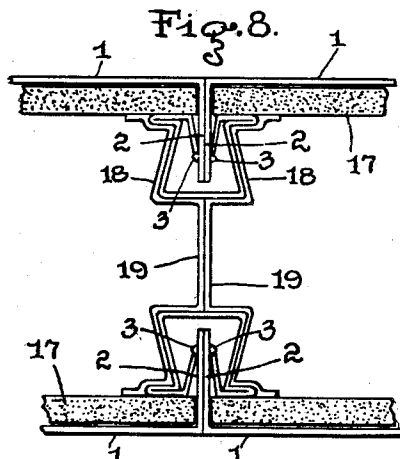
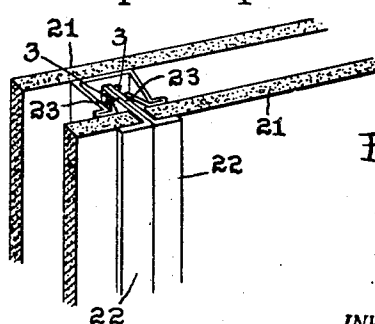


Fig. 10.



INVENTOR.
ALFRED L. JACKSON
BY
Harmon S. Ashley
ATTORNEY

UNITED STATES PATENT OFFICE

2,412,404

WALL STRUCTURE FOR BUILDINGS
AND THE LIKE

Alfred L. Jackson, New York, N. Y.

Application December 16, 1944, Serial No. 568,483

1 Claim. (Cl. 189-34)

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The invention relates to new and useful improvements in wall structures for buildings and the like and is particularly adapted for use in partitions and sheathing employed in buildings, bulkheads in ships and the like.

An object of the invention is to provide a wall structure, partition, bulkhead or sheathing, which may be easily erected, demounted and re-assembled as desired.

A further object of the invention is to provide a wall or partition which is fire resistant and affords maximum protection against buckling or failure when subjected to fire.

A further object of the invention is to provide a sheet metal faced wall or partition which may be erected without bolts, rivets or welding.

A further object of the invention is to provide means for fastening together sections of walls, partitions and the like in such manner that they are firmly held in position and may be demounted as desired.

A further object of the invention is to provide a wall or partition which will accommodate itself to irregularities in the floor or deck surface upon which it is erected.

A further object of the invention is to provide a new and useful clamping element adapted to clamp and hold in position sections or panels of walls, partitions and the like.

Preferred embodiments of the invention are shown in the accompanying drawings which are intended to illustrate the invention and not to limit the same.

It is to be understood that changes and modifications may be made in the several forms and details of the structures shown in the accompanying drawings without departing from the scope or spirit of the invention.

Referring to the accompanying drawings:

Fig. 1 is a perspective view of a portion of a panel and clamping structural element embodying the invention.

Fig. 2 is a horizontal section of a partition showing panels and clamping structural element assembled.

Fig. 3 is a horizontal section of a partition showing insulating material on the panels.

Fig. 4 is a sectional detail showing the clamping structural element engaging the panel.

Fig. 5 is a perspective view of a partition with insulating lining.

Fig. 6 is a detail of a portion of a partition erected on a supporting cradle.

Fig. 7 is a horizontal section of a modified form of the clamping structural element.

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Fig. 8 is a further modified form of the same.

Fig. 9 is a detail of the flange of a panel.

Fig. 10 is a view of a modified form of the panel constructed of wall board or the like, and

Fig. 11 is a view of a sheet of material with the bends indicated by dotted lines illustrating the lines on which the same is to be folded to form the clamping element.

Similar characters of reference refer to like parts throughout the several views.

The structure comprises a plurality of narrow panels 1, 1 each having their longitudinal marginal sides folded over at substantially right angles to form marginal lips or flanges 2, 2 which are provided with outstanding spaced pimples or protuberances 3, 3 and intermediate cut out sections 4.

The flanges 2 of adjoining panels 1 are placed together with the pimple 3 of one flange in the cut out space of the panel with which it is paired so that the panels may slide longitudinally within the limits of the cut out space 4.

The panels 1 are held in position by means of clamping members adapted to receive and hold the flanges of the said panels.

These clamping members are preferably of sheet steel or the like folded on longitudinal lines as shown in Fig. 11. The flat median portion between the parallel lines *a, a* forms the base 5 of the clamping member. The blank is folded at the lines *a, a* to form the sides 6, 7 of the clamping member which sides preferably lie at an angle of less than 90° to the base 5.

The blank is then folded on the parallel lines *b, b* and the sections 8 and 9 are set in a plane parallel to the plane of the base 5. The blank is then folded back on the lines *c, c* forming the sections 10, 11 which lie against the sections 8 and 9 and form the outer wall of the said clamping member. The outer marginal edge sections 12 and 13 are then folded inwardly and inclined toward each other to form clamping lips 14, 15 which grip the flanges 2 of the panels 1.

The panels 1 may be set up in parallel spaced relation as shown in Fig. 2 to form a wall or partition with an internal air space or chamber 16 with the clamping members, as above described, forming spacers between the parallel rows of panels 1, the base 5 of the clamping members resting against a panel 1 of one side and the outer leaves 10 and 11 of the clamping member resting against the opposite side. As shown in Fig. 2, the panels 1 are preferably staggered so that the flanges 2 of the panels 1 on opposite sides of the partition are spaced apart, and seated

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in clamping members set up for that purpose and the use of bolts, rivets, welding and the like is avoided.

The panels 1 may be insulated with a lining of insulating wall board 17 of asbestos or the like, if desired.

When it is desired to provide a larger air chamber 16 between the panels 1, the clamping members may be arranged in pairs with their bases 5 together as shown in Fig. 7 or a still greater spacing may be attained by setting the clamping members in a pair of spacer plates 18, 18 having an intermediate web section 19.

The panels may be constructed of wall board 21 or the like as shown in Fig. 10. In this form of the device, the panels 21 are provided with marginal holding plates 22 having flanges 23 adapted to enter and to be engaged by the clamping members as above described.

Panels set up as above described may slide longitudinally on each other within the limits allowed by the cut out sections 4 and pimples 3 of the adjacent flanges so that irregularities of surface in the deck or floor upon which the wall is erected may be accommodated.

It has been found desirable, under certain conditions, to provide a cradle 24 as shown in Fig. 6 to support or level up the partition. The cradle 24 is preferably fastened, in any desired manner, to the floor or deck 25. The form shown in Fig. 6 is adapted particularly to be laid in concrete or the like.

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The wall or partition may be provided with a base board 26 and lintel 27 to be attached to the ceiling for decorative purposes.

It has been found by experiment that a wall or partition constructed as above described provides a high degree of insulation against the transmission of heat which is highly desirable in places where a fire hazard may exist, as in shipping and the like. It is desirable to so set the partition that space may be provided to permit expansion without buckling when the wall is subjected to high temperature or direct flame.

When it is desired to demount the panels, a screw driver or like flat tool may be inserted between adjoining panels and the flanges 12 and 13 thereby spread apart to permit the withdrawal of the flanges 2, 2.

Having thus described the invention, what is claimed is:

20 In a device of the character described, the combination of a pair of panels each having marginal flanges positioned at right angles to the body of the panel of which it forms a part, the flanges of adjacent panels being set together, 25 projections on the said flanges extending therefrom into the plane of an adjacent flange, cut out sections in the said flanges positioned to receive the projections of an adjacent flange and to permit limited longitudinal movement of the said panels with respect to each other, and spring 30 means for clamping the said flanges together.

ALFRED L. JACKSON.