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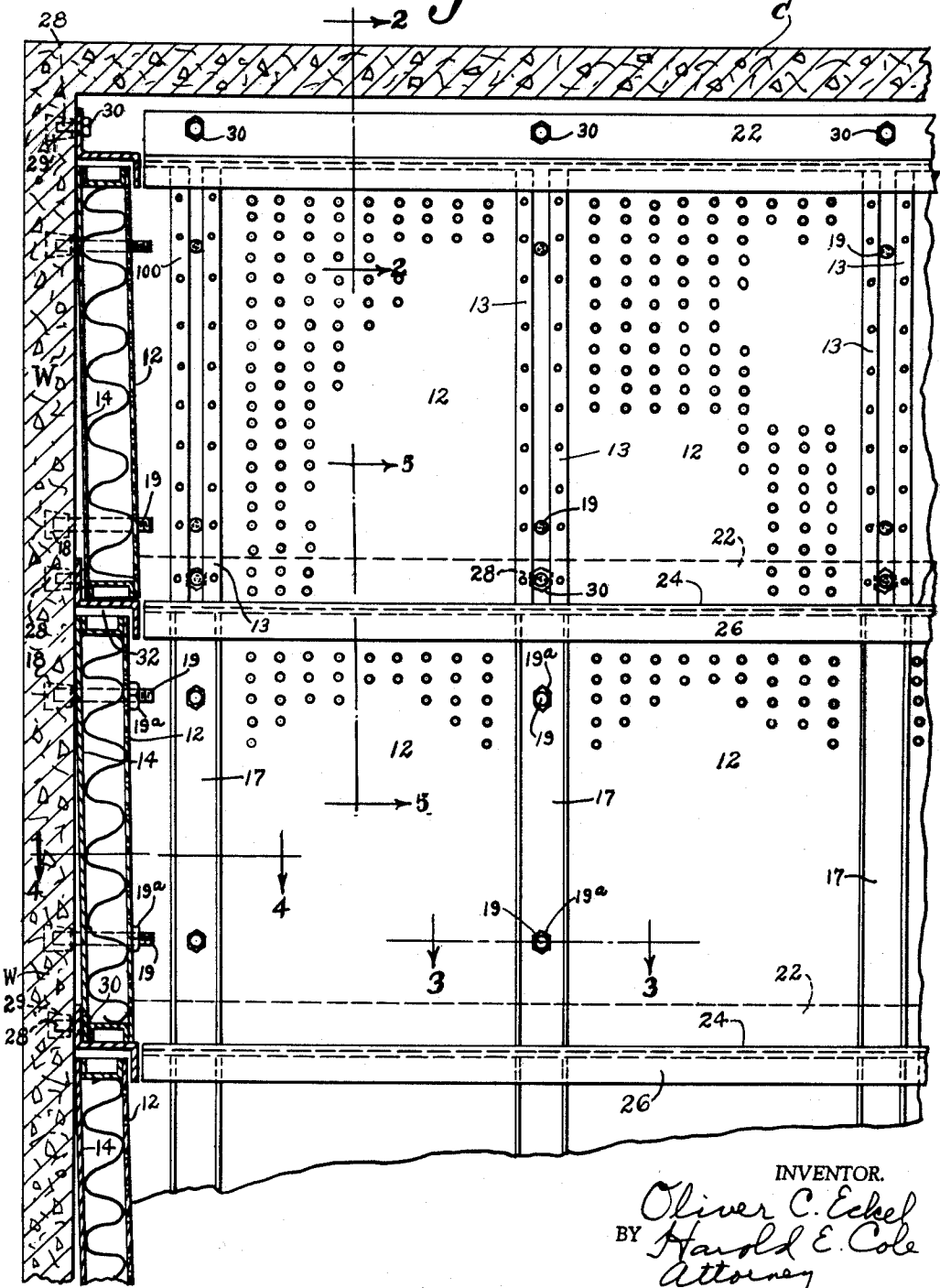
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ASSEMBLY OF ACOUSTICAL PANELS WITH RETAINERS

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Fig. 1.



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Fig. 2.

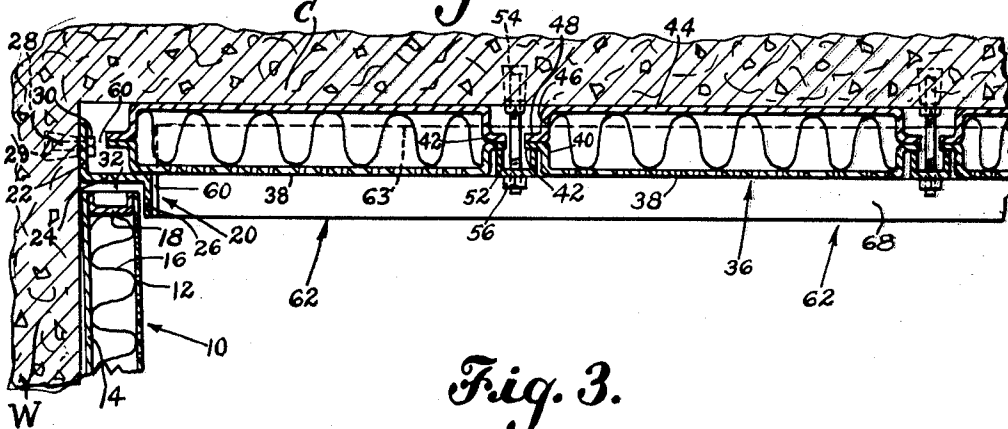


Fig. 3.

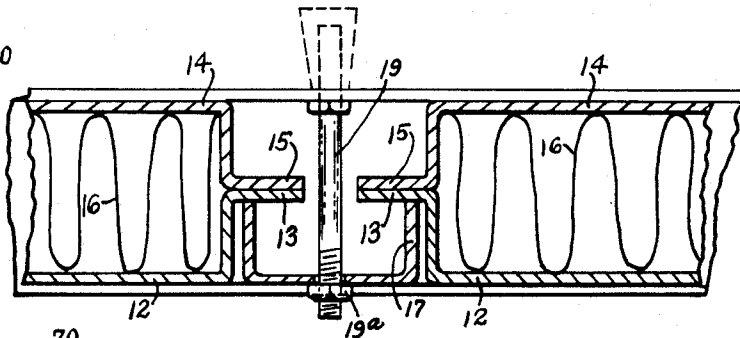
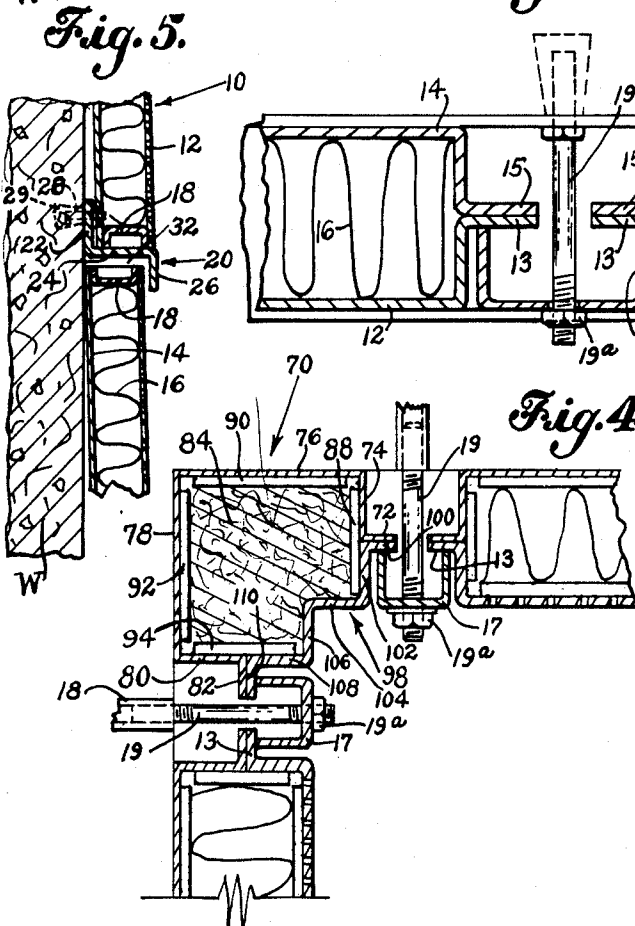


Fig. 4.



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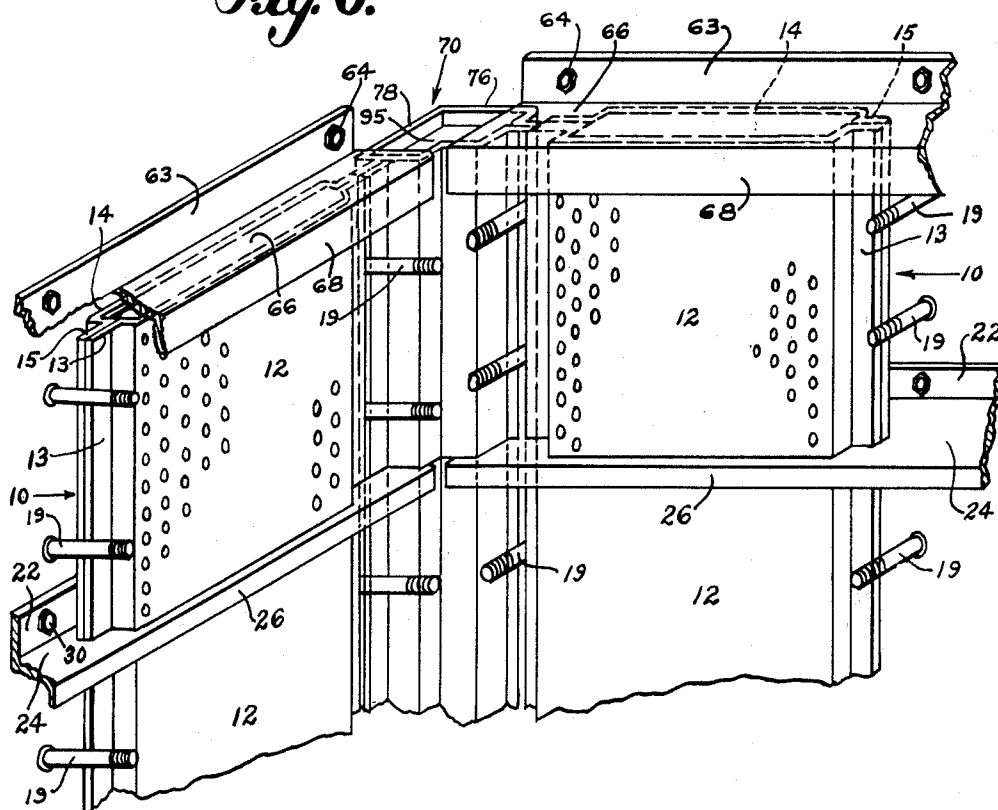
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Fig. 6.



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3,136,397 ASSEMBLY OF ACOUSTICAL PANELS WITH RETAINERS

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This invention relates to an assembly of acoustical panels, including some which are removably held in position by retainers.

One object of my invention is to provide an assembly of acoustical panels placed against walls, for instance, for use in cells or rooms such as those used in testing aircraft engines and the like, which assembly is simple in construction and arrangement, yet fully effective.

Another object is to provide a vertical support for said panels by means of a retainer, which permits easy withdrawal of any one of them by simple, physical movements, and without disturbing any other panels, when the battens between two adjoining panels are removed, and likewise permits their easy replacement.

A further object is to make said panel assembly self-supporting during installation, by means of a retainer attached to a wall, or the like, which serves as a retaining support ready to receive the panels and keep them in assembled position.

A still further object is to provide a corner standard for said assembly which will provide the necessary support at a corner, yet give the assembly a finished appearance, with part of the standard extending in alinement with an adjacent wall panel, and another part extending in alinement with another adjacent panel forming part of a wall extending at a right angle to the aforesaid wall, thus giving the corner an appearance of continuity.

The foregoing and other objects which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and arrangement of parts such as is disclosed by the drawings. The nature of the invention is such as to render it susceptible to various changes and modifications, and, therefore, I am not to be limited to the construction disclosed by the drawings nor to the particular parts described in the specification; but am entitled to all such changes therefrom as fall within the scope of my claims.

In the drawings:

FIG. 1 is a front elevational view showing an assembly of acoustical panels on a wall, with another panel assembly on an adjoining wall shown in section, and showing a ceiling above said walls, but without panels, the upper panels in said front view being set in place; but not anchored, whereas the lower panels are shown anchored in place by channel-shaped battens.

FIG. 2 is a sectional view taken on the line 2—2 of FIG. 1, omitting an adjoining wall.

FIG. 3 is an enlarged, sectional view taken on the line 3—3 of FIG. 1.

FIG. 4 is an enlarged, sectional view taken on the line 4—4 of FIG. 1.

FIG. 5 is a sectional view taken on the line 5—5 of FIG. 1, omitting an adjoining wall.

FIG. 6 is a perspective view of the assembly shown in FIG. 5; but taken from a point showing the upper part of the walls which adjoin at a right angle, and showing the Z-retainer for the ceiling panels in place.

As illustrated, I provide wall panels 10 to be placed next to a side wall W of concrete or the like. This wall panel 10 has a perforated front 12, with side flanges 13, and a back 14 with side flanges 15. There is insulation 16, as shown, such as glass wool, between said front and back. End pieces 18 are placed between and attached

to said front and back, being shown as channel-shaped pieces. Said front, back and end pieces are made of metal, such as 10 gauge sheet metal, or other durable material. Channel-shaped battens 17 bear against two of said side flanges 13 of two adjacent panels, and bolts 19 extend through holes in said battens 17, which bolts are connected to inserts 18 imbedded in side walls W. Nuts 19a on said bolts 19 hold said battens 17 in place.

Said wall panels 10 are detachably retained in place by a retainer 20 between them, which has two reversed angle portions, and which is referred to herein as Z-shaped. It may be made of sheet metal as aforesaid, and extend horizontally the full length of a wall, or a plurality of said retainers may be used in said full length. As will be seen in FIGS. 2 and 5, a rear angle portion 22 of said Z-retainer extends upwardly between a said panel back 14 and said side wall W, an intermediate portion 24 extends between two said panels 10, and a front angle portion 26 extends downwardly and forward of said front 12. A bolt 28 is screwed into a threaded insert 29 imbedded in said concrete wall W and extends through said rear angle portion 22, being held therein by the bolt head 30.

A space 32 is purposely left between said Z-retainer intermediate portion 24 and the said panel 10 immediately below it, hence to remove a wall panel 10, it is pushed upwardly into said space 32 and then tipped forwardly sufficiently to move it away from both said wall W and said Z-retainer below it, so that it can drop downwardly and out of its place.

Ceiling panels 36 are formed with a perforated front 38 having offset portions 40 at opposite sides that terminate in angular flanges 42. Each said ceiling panel 36 has a back 44 having offset portions 46 at opposite sides that terminate in angular flanges 48 which are opposite said flanges 42, and may be joined to the latter as by welding or otherwise.

These ceiling panels 36 are laid against a concrete or permanent ceiling C, and are held there in assembled position by channel-shaped battens or connectors 52 bearing against two of said side flanges 42. Each said batten 52 has a hole or holes through its intermediate portion which receives a bolt or bolts 54 imbedded in said ceiling C and extending outside said batten 52 where a nut 56 firmly holds one side of an assembly of two said panels 36 in place. Said battens 52 are preferably flush with said panels.

Where a ceiling plane 36 is adjacent a wall panel 10, the ceiling panel front 38 rests on said Z-retainer intermediate portion 24 as shown in said FIG. 2. There is a space 60 between the end of a said ceiling panel 10 and the Z-retainer angle portion 22, thus allowing clearance for installation of the ceiling panel. The latter may be removed by unscrewing said nuts 56 and removing said battens 52.

A Z-shaped retainer member 62, similar to said Z-retainer 20, has a rear portion 63 that is held to a said wall W, as by a bolt engaging an insert in a said wall, as previously described, or otherwise held. It also has an intermediate portion 66 and a front portion 68 which extends downwardly in front of adjacent wall panels 10 to help retain the latter in place during installation of the assembly.

In FIGS. 4 and 6 of the drawings, I show structure where two side walls adjoin. Between said wall panels 10 on adjoining walls W, I provide a corner standard or support 70. The latter, in cross section, has a flange portion 72, an angular portion 74 next to it, then a wall contacting, angular portion 76, then another wall contacting angular portion 78, then another angular portion 80, terminating at a right angle in a flange 82. Said corner

standard 70 is filled with fiber glass or other insulation 84 and it has end or closure members 95.

Said corner standard 70 includes a double Z-shaped retainer member 98 having four reverse angle portions which completes said standard to thereby provide an enclosure for said insulation 84. One of the angle portions serves as a flange 100 that is opposite, and united to, said corner standard flange 72, as by welding. From the latter are several right angle portions 102, 104, 106, 108, and then a flange portion 110 that is opposite and is united to said corner standard flange 82.

Said channel-shaped battens 17 bear against said flanges 100 and 13, holding said corner standard 70 and adjoining wall panel in place.

A said wall panel 10 of an adjoining right-angled wall W, is held in position adjacent said corner standard 70 by a said batten 17 which bears against said double-Z flange 110, and also against a said side flange 13 of said wall panel 10. Another said bolt 19 engages an insert imbedded in a said wall W, and extends through said batten 17, and it has a nut 19a firmly holding said battens in place.

It will be seen from FIG. 4 of the drawings that said corner standard 70 provides a said portion 104 that is in alinement with an adjacent said wall panel and said batten 17, and also provides another said portion 106 that is in alinement with an adjacent said wall panel and a said batten 17 forming part of a right-angular, adjoining wall. Thus the corner standard gives the assembly a continuity of uniform appearance even at the corners.

What I claim is:

1. An assembly in combination with two angularly adjoining walls and a ceiling, said assembly comprising a plurality of panels, a first of said panels extending along said ceiling from the first of said walls, a second of said

panels extending along a first said wall and extending below said ceiling panel, a Z-shaped retainer embodying one angular portion attached to said first wall, another angular portion extending laterally away from said wall and directly below said first ceiling panel and above said second panel, and a third angular portion extending downwardly away from said ceiling panel, said ceiling first panel resting on said retainer other angular portion.

2. An assembly in combination with two angularly adjoining walls and a ceiling, said assembly comprising a plurality of panels, a first of said panels extending along said ceiling and being spaced laterally, at a side extremity thereof, from the first of said walls, a second of said panels extending along a first said wall and extending below and spaced from said ceiling panel, a Z-shaped retainer embodying one angular portion attached to said first wall, another angular portion extending laterally away from said wall and directly below said first ceiling panel and above said second panel, and a third angular portion extending downwardly away from said ceiling panel, said ceiling first panel resting on said retainer other angular portion, said second panel being inwardly of said third angular portion, the latter overlapping the upper portion of said second panel to thereby retain it in predetermined position.

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