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Panel Mounting System

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(62) Divisional of:
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(71) Applicant(s)
CSR Building Products Limited

(72) Inventor(s)
CAVASINNI, Daniel

(74) Agent / Attorney
Griffith Hack, Level 15, 376-390 Collins Street, Melbourne, VIC, 3000, AU

ABSTRACT

Disclosed is a system for mounting a panel such as an acoustic panel, baffle or fin. The system can comprise an elongate member in the form of a channel. The system can further comprise the panel. A base of the channel can be configured to enable it to be mounted with respect to a structure. Opposing sidewalls of the channel can extend from the base such that, in profile, the sidewalls define a neck portion that extends to an enlarged head portion of the channel. The sidewalls can be spaced to define an opening to the channel. Each sidewall can further comprise a flange that projects inwardly from a respective sidewall. The spacing of a distal end edge of each flange can be such that an elongate edge of the panel can be located within the opening to the channel to be retained between the flanges.

PANEL MOUNTING SYSTEM

TECHNICAL FIELD

This disclosure relates to a system for mounting panels (e.g. for mounting panels/fabrics which can provide an acoustic solution such as acoustic panels, baffles, fins, blades and fabrics). Hereafter, such acoustic panels, baffles, fins blades and fabrics will collectively be referred to as "panels". The panels may be mounted as a ceiling fixture, suspension or infill and/or may optionally be mounted to provide for different lighting effects. The panels may additionally or alternatively be mounted so as to form walls, partitions, borders, dividers, etc.

BACKGROUND ART

Acoustic insulation panels (e.g. panels, baffles, fins, blades, fabrics) are employed for various acoustic applications ranging from sound absorption, sound attenuation and reduction of acoustic reverberation. Such panels can be employed as cavity and ceiling infill products to reduce sound transmission through walls and ceilings and within rooms and large spaces. Such panels can also form walls, partitions, borders, dividers, etc. within rooms and large spaces. Acoustic panels can be used in various building types and applications including in offices, meeting rooms, educational facilities including lecture theatres and classrooms, theatres and entertainment venues, restaurants, libraries, live venues, sports venues and halls, residential apartments, health (e.g. hospital) and aged-care facilities, as well as in various commercial applications.

At present, there is no universal mounting system for acoustic insulation panels. In addition, existing mounting systems tend to be of metal (e.g. aluminium and steel) and are thus relatively heavy and/or labour intensive to install. Further, acoustic panel installation tends to be bespoke, with there being very few modular installation systems available.

It is to be understood that, if any prior art is referred to herein, such reference does not constitute an admission that the prior art forms a part of the common general knowledge in the art, in Australia or any other country.

SUMMARY

Disclosed herein is a system for mounting a panel with respect to a structure (e.g. a ceiling, ceiling space, false ceiling, wall, frame, divider, partition, border, fixture, furniture, etc.). The panel can take the form of an acoustic panel, baffle, fin, blade or fabric but is not so limited.

The system of the first aspect can comprise an elongate member. The elongate member can take the form of a channel. A base of the member (e.g. a base of the channel) can be configured to enable it to be mounted with respect to the structure. Opposing sidewalls of the member (e.g. opposing sidewalls of the channel) can extend from the base such that, when the member (e.g. channel) is viewed in profile (i.e. from the member (channel) end), the sidewalls are configured to define a neck portion that extends to an enlarged head portion of the member (e.g. enlarged head portion of the channel).

The sidewalls can be spaced to define an opening to the channel. This opening can receive e.g. an elongate edge of the panel therethrough. Further, each sidewall can further comprise a flange that projects inwardly from a respective sidewall. In addition, each flange may extend for a length of the channel. The spacing of a distal end edge of each flange can be such that an elongate edge of the panel can be located within the opening to the channel to be retained between the flanges.

For example, the spacing of opposing distal end edges of corresponding opposing flanges may be less than the thickness of the panel elongate edge, whereby the opposing flanges are able to securely retain the panel elongate edge therebetween. Further, the flanges of each sidewall may generally project towards each other (i.e. to evenly support the panel elongate edge within the channel).

The system can thereby provide a panel-in-channel mounting arrangement, which represents one mode of mounting an acoustic panel to a channel that is mounted to a structure.

In some forms, each sidewall may comprise one or more inwardly projecting flanges extending within and/or along the opening to the elongate member. In some forms, the inwardly projecting flanges may be substantially continuous along at least part of the sidewall. In some forms, one or more of the inwardly projecting flanges may instead be provided as a plurality of discrete inwardly projecting flange formations. By way of example, at least some of the inwardly projecting flanges may take the form of an array of teeth formed on an internal recess wall of a respective sidewall. In such forms, the teeth may define respective inwardly projecting flanges for guiding insertion of a panel edge and/or retaining the panel edge in the elongate member. Accordingly, the inwardly projecting flanges may be provided as continuous flange portions, discontinuous flange portions, teeth-like formations, or combinations thereof.

In some embodiments, each flange may project inwardly from the sidewall, either from an intermediate location along the sidewall and/or from a distal end of the sidewall. For example, the channel may be configured whereby flanges project from both the intermediate location and the distal end of the sidewall. Providing two or more such projecting flanges can help to improve retention of the panel elongate edge within the channel.

In some embodiments, each flange (e.g. each intermediate flange and each distal flange) may extend for a length of the channel. Thus, each flange can support the panel elongate edge within the channel for a length of the panel.

In one form of the channel, a first flange may project inwardly from an intermediate location of the sidewall. The first flange may comprise a lip that extends at an acute angle from the distal end edge of the flange and away from the base. The lip can thereby guide the panel elongate edge therebetween (i.e.,

between the opposing flanges). A second flange may project inwardly from a distal end of the sidewall. The second flange may project towards a corresponding second flange of the opposing sidewall. The first and second flanges may together support the panel elongate edge within this first form of the channel to help to improve panel retention.

In another form of the channel, a series of flanges in the form of teeth-like ridges may be arranged to project inwardly from an intermediate location of the sidewall. These teeth-like ridges may be configured for gripping onto sides of the panel that are located adjacent to the elongate edge of the panel. A second flange may project inwardly from a distal end of the sidewall. The second flange may project towards a corresponding second flange of the opposing sidewall. The first and second flanges may together support the panel elongate edge within this other form of the channel to help to improve panel retention.

In one mode of use, the panel elongate edge may be push-fit into the channel opening to be retained between the flanges. In another mode of use, the panel elongate edge may be slid longitudinally through an open end of the channel. In either mode, the flange(s) that project inwardly from respective sidewalls can provide panel retention within the channel.

In some embodiments, each sidewall may be defined by an outer sidewall portion that is spaced from an inner sidewall portion. Further, the opening to the channel can be defined between the inner sidewall portions. In embodiments that comprise outer and inner sidewall portions, the or each flange can be located to project inwardly from a respective inner sidewall portion.

As above, the elongate member typically takes the form of a channel (e.g. so that it may be formed as an elongate extrusion, such as from a metal, composite or plastic). However, in some variations, the elongate member may have a solid form (e.g. to have a rod-like or bar-like form) or may be of closed hollow section. In these variations, the sidewalls and base can define respective sides/surfaces of the solid form or hollow section.

As set forth above, the system also comprises a panel. As above, typically the panel takes the form of an acoustic panel, baffle or fin. The dimensions of the channel can be configured to correspond to the dimensions of the panel. For example, the length of the channel and the width of the channel opening can generally correspond to the length and thickness of the panel. This can allow the system to provide the panel-in-channel mounting arrangement, which represents said one mode of mounting the panel to the channel.

In other embodiments, the panel may have at least one recess formed in an edge thereof (e.g. located in an in-use upper edge when the panel is to be suspended, or located in an in-use side edge when the panel is to be used as a divider, barrier, etc.). The at least one recess can be configured to generally correspond to an external profile of the member (e.g. channel). For example, the recess can be provided with an inner recess portion that is enlarged to receive (e.g. snugly or closely) the member head portion. The recess can also be provided with an outer recess portion that is configured to receive (e.g. snugly or closely) the member neck portion. The outer recess portion can open out of the panel edge (e.g. to enable the member to be mounted with respect to the structure). In use, when the member is located in the panel recess, it is transverse to the panel and retains the panel to the member.

For example, one or both of the member and panel may be configured whereby the member can be slid laterally through the recess to retain the panel to the member. Additionally or alternatively, one or both of the member and panel may be configured whereby the member can be push-fit or snap-fit into the recess, via the open outer recess portion, to retain the panel to the member.

The panel can be configured to be mounted to each member in a generally orthogonal arrangement (e.g. each panel extends at a right angle to the longitudinal axis of each member). Alternatively, the panel can be configured to mount at another angle to each member (e.g. each panel extends at an angle other

than ~90° to the longitudinal axis of each member). Further, each member need not be straight, and may e.g. be curved.

The system of the first aspect can provide for "universal" panel mounting. In this regard, the system can accommodate a range of panel widths (e.g. ranging from 4mm to 150mm panel thicknesses). The system can also accommodate a range of panel lengths (e.g. multiple spaced members can be mounted with respect to the structure to support long panels). The member may be direct-fixed to the structure or may be suspended or spaced from the structure. Thus, the system can allow for quick and easy installation. The system may be factory prefabricated and may be supplied as a kit e.g. along with installation instructions. A kit may be supplied without panels. For example, preformed panels may be supplied separately to other components of the mounting system.

The system of the first aspect can be modular in that members and panels can each easily be adapted on site to suit the particular application, including by using member end caps and connectors, as outlined below. In some forms, as outlined below, the system of the first aspect may integrate lighting. In some forms, as outlined below, the member may also directly support there-within a panel in the form of a fin.

When the elongate member takes the form of an elongate channel, a base of the channel may be configured to be mounted with respect to the structure (e.g. to be direct-mounted to, or suspended or spaced from, the structure). The opposing spaced sidewalls of the channel can extend from the base to define the channel.

Typically, the channel is configured such that the base extends between and joins the channel sidewalls. Each sidewall may then extend to a distal end edge such that the sidewalls are spaced apart to define an opening to the channel. However, in a variation of the channel, the base may instead be defined by elongate, spaced base walls, whereby an opening between the base walls can be defined along the length of the base. In this variation, the channel sidewalls may be connected (e.g. as a continuous wall) instead of being spaced apart at their distal end edges.

In an embodiment, when the elongate channel is viewed in profile (i.e. from an end thereof), each channel sidewall may be configured to define an outwardly projecting step-formation at the juncture of the neck portion with the head portion. For example, a neck portion of the sidewall may extend generally orthogonally from the base to the step-formation. The step-formation may then comprise a step that projects out (e.g. laterally) from a neck portion of the sidewall. Then, a head portion of each sidewall may extend from its respective step (e.g. it may extend so as to form an acute angle with its respective step). The head portion of each sidewall may extend to a distal end edge of the sidewall. Alternatively, the head portion of each sidewall may extend such that the sidewalls are connected (e.g. as a continuous wall) instead of being spaced at their distal end edges.

In an embodiment, sides of the panel recess may also be configured to define corresponding inwardly projecting step-formations. The corresponding step-formations may be defined at the juncture of the inner recess portion with the outer recess portion. Thus, when the channel is located in the panel recess, the corresponding channel and panel step-formations may face each other (e.g. they may abut) to thereby retain the panel to the channel.

In an embodiment, each sidewall distal end edge may comprise an inwardly projecting lip that runs for a length of the sidewall (e.g. for the entire length or along discrete length(s) of the sidewall). For example, the lips may project towards each other. The lips may be configured to retain an elongate (e.g. strip-like) cover at an opening to the channel, such as by a snap- or slide-fit.

When the elongate cover is in the form of an elongate strip, it may be provided with a pair of elongate, spaced parallel flanges that project from and extend along a face thereof. A distal end edge of each such flange may be configured to interact with (e.g. by a snap- or slide-fitting) a respective formation defined at a corresponding distal end edge of each sidewall. In this way, the elongate cover can be readily retained at and thereby cover the opening to the channel. The elongate cover may be formed of the same material as the channel (e.g. a metal

such as aluminium), and thus may be opaque. The elongate cover may instead be formed of a different material to the channel (e.g. a light-transmissive and/or polymeric material such as PVC, polycarbonate, etc). When formed of a light-transmissive material (e.g. a translucent or transparent material such as a polymer), this can allow the channel to hold a source of light (e.g. an LED strip) and thereby release light in use (e.g. the released light can pass through the cover and fall onto and/or reflect from panel(s) or fabric mounted to the channel).

In an embodiment, an external side of the base (i.e. the side that typically faces the structure) may comprise an inwardly formed elongate recess. This recess may open out from the base, which can allow for a suitable fastening mechanism to be connected to the base. The opening to the base recess may be further defined by opposing and inwardly projecting lips that extend for a length of the base recess (e.g. for the entire length or for discrete portion(s) of the base recess). These lips can be employed to secure the suitable fastening mechanism.

In this regard, in an embodiment, the system of the first aspect may further comprise a mounting fixture (i.e. the mounting fixture can provide one such suitable fastening mechanism). The mounting fixture may be configured for mounting to the structure (e.g. directly or to be suspended/spaced therefrom).

A portion of the mounting fixture may be configured to locate within the base recess and be retained therein by the lips. For example, the mounting fixture may be elongate, with one end of the elongate mounting fixture being configured for mounting with respect to the structure. This one end may be directly mounted to (e.g. by being affixed within) the structure. Alternatively, this one end may be configured to be suspended or spaced from the structure (e.g. via a wire, rod, etc.). Further, this one end of the mounting fixture may be located at that portion of the mounting fixture that is located (i.e. protrudes) outside of the base recess in use (i.e. the mounting fixture can project away from the base in use).

The other end of the mounting fixture may be provided with a groove therein (e.g. a peripherally extending groove formation). The groove enables the other end of the mounting fixture to locate within the base recess – e.g. to be retained therein by the lips locating in the groove.

In an embodiment, a wall of the base recess may be countersunk on an opposite side of the wall to the base recess. The countersunk side may extend for a length of the base recess wall (e.g. for the entire length or for discrete length(s) of the wall). An LED strip light may be located in the countersunk side. The countersunk side may also be configured to have one or more fasteners secured thereat (e.g. for direct mounting of the base to the structure). Each fastener may pass through a respective aperture formed in the base recess wall, which aperture may also be countersunk to flush-mount a head of the fastener therein. In this way, the LED strip light may still be located in the countersunk side (i.e. the LED strip may cover each fastener head).

In an embodiment, each sidewall may further comprise an elongate flange that projects inwardly from an intermediate location of a respective sidewall. Each such flange may extend for a length of a main channel recess (e.g. for the entire length or for discrete section(s) of the main channel recess). The flanges may generally project towards each other. In an embodiment, each flange may be formed as a continuation of the step of the step-formation.

In an embodiment, each flange may comprise a lip that extends at an acute angle from a distal end edge of the flange and away from the base. In use, the spacing of the distal end edges of the flanges may be such that an elongate edge of panel, such as an acoustic fin, can be positioned between and be retained by the flanges. The acutely extending lips can help to guide the panel (e.g. fin) elongate edge between the flange distal end edges during its insertion into the channel.

In an embodiment, the panel may be formed of a deformable material such that the member (e.g. channel) may be push-fit into the recess at the panel edge. For

example, the panel may be formed of a thermally bonded polymeric (e.g. polyester) fibre material or natural (e.g. wool) fibre material.

In an embodiment, the panel may comprise a number of discrete recesses spaced out along the edge thereof. Each recess can locate a respective member (e.g. channel) therein.

In an embodiment, each panel recess may comprise opposing inwardly-facing faces. The inward faces of the panel outer recess portion may taper outwardly at the panel edge such that these inward faces are able to engage with (and e.g. guide) corresponding external faces of the member (e.g. channel) sidewalls to thereby guide the member when it is push-fit into a respective panel recess via the open outer recess portion.

In an embodiment, the system of the first aspect may further comprise at least one end cap (i.e. typically two end caps per member). Each end cap may be configured for secure location at a respective end of the member. The end caps can e.g. aesthetically finish off an installation and can cover any sharp edges of the member ends. The end caps may be moulded from a plastic material, which may also be light-transmissive or opaque.

In one form, when the member is hollow, each end cap may comprise a boss that protrudes from a plate. The boss can be formed to have an external profile that generally corresponds to (e.g. closely matches) an internal profile of the hollow member. This can enable the end cap to be push-fit into the respective end of the member.

In another form, when the member is hollow, each end cap may take the form of a connector. The connector can have bosses that protrude from respective, opposite sides of a plate. Again, each boss can be formed to have an external profile that generally corresponds to (e.g. closely matches) an internal profile of the hollow member. Thus, each boss may be push-fit into an end of a respective hollow

member such that the connector can extend between and connect hollow members end-to-end.

In an embodiment, each boss may comprise a number of elongate panel-retaining inserts that project from a surface of the plate. A first pair of inserts can be arranged to locate between each flange and the base. A second pair of inserts can be arranged to locate between each flange and a respective sidewall distal end edge. In use, the first and second inserts can cooperate with the flanges, base and sidewalls to retain the end cap to the member end.

Also disclosed herein is an elongate member for use with the system of the first aspect as set forth above. The elongate member may be configured in the form of an elongate channel, such that a base of the channel is configured to be mounted with respect to the structure, and such that opposing spaced sidewalls of the channel extend from the base to define the channel. The channel locates and houses a light source therewithin. The channel retains an elongate cover formed of a light-transmissive material at an opening to the channel located between the channel sidewalls.

Also disclosed herein is a panel for use with the system of the first aspect as set forth above. The panel may be configured as set forth above (e.g. to comprise at least one corresponding recess therein).

Also disclosed herein is an elongate cover for use with the system of the first aspect as set forth above. The cover may be configured as set forth above.

Also disclosed herein is an end cap for use with the system of the first aspect as set forth above. The end cap may be configured as set forth above.

Also disclosed herein is a mounting fixture when that mounting fixture is used with the system of the first aspect as set forth above. The mounting fixture may be configured as set forth above.

Also disclosed herein is a kit for use with the system of the first aspect as set forth above. The kit can comprise one or more of the channel, panel, elongate cover, or end cap or as set forth above. The kit can optionally comprise one or more mounting fixtures as set forth above. The kit may alternatively be supplied without panel(s), which may be supplied separately to other components of the mounting system.

Also disclosed herein is a method for mounting a panel as set forth above with respect to a structure. For example, the method can be employed to install one or more such panels using one or more elongate members as set forth above. The method can be used to install such panel(s) at or in relation to a ceiling, ceiling space, false ceiling, wall, frame, divider, partition, border, fixture, furniture, etc. The panel to be installed can take the form of an acoustic panel, baffle or fin, but again is not so limited.

The method comprises mounting a base of the elongate member with respect to the structure. The method also comprises mounting to the member a panel by way of locating the member in the panel recess. Typically, each member is pre-installed with respect to the structure, and the panel then mounted thereto, although each panel may first be secured to the (or each) member, and then each member may be installed at or with respect to the structure.

In one form of the method, the panel may be mounted to the member by a relative sliding of the member laterally through the recess (e.g. one or both or the panel and member may be slid). In another form of the method, the panel may be mounted to the member by push-fitting the member into the recess via the open outer recess portion (e.g. one or both or the panel and member may be push-fit to the other). The panel may be configured (e.g. it may be deformable) such that it can be both slide or push-fit to the member.

In one embodiment of the method, the panel may comprise a number of discrete recesses spaced out along the edge thereof. A number of members that correspond

to the number of discrete panel recesses may be mounted in a spaced manner with respect to the structure. The panel may be pre- or post-installed to the corresponding number of members.

In one embodiment of the method, a number of panels may be mounted to the member(s), e.g. in a spaced manner. Thus, a given installation may comprise a number of spaced members and a number of spaced panels.

In one form of the method, each member may be mounted directly to the structure (e.g. via one or more fasteners). The fasteners may be installed directly though each member, or the fasteners may comprise one or more mounting fixtures (such as set forth above) that may be pre-installed at the structure and then the member may be mounted thereto.

In another form of the method, each member may be mounted indirectly to the structure (e.g. via one or more mounting fixtures, such as set forth above). For example, each member may be suspended or spaced with respect to the structure.

In one embodiment, the method may further comprise retaining an elongate cover to the or each member. For example, when multiple panels are mounted to the member(s), a discrete elongate cover may be retained at the member to locate between adjacent panels. A discrete elongate cover may also be retained at the member to locate between an end-most panel and a respective adjacent member end. Each discrete elongate cover may be configured as set forth above.

In one embodiment, the method may further comprise securing at least one end cap (typically two end caps) to a respective end of each member. Again, the end cap may be configured as set forth above.

In one embodiment of the method, the end cap may be a connector as set forth above (i.e. the connector may be located between so as to connect adjacent members end-to-end).

Also disclosed herein, in a further aspect, is a system for mounting a panel such as an acoustic panel, baffle or fin. The system of the further aspect can, for example, be configured to support a so-called “cloud” panel, baffle or fin. The system can e.g. allow the panel to be suspended from a structure. The system can e.g. allow a number of panels to be suspended from a structure.

The system of the further aspect comprises a first elongate member. A base of the first member is configured to enable it to be mounted with respect to a structure (e.g. at or suspended from a ceiling, ceiling space, false ceiling, roof, etc.). Opposing sidewalls of the first elongate member can extend from the base such that, in profile (i.e. when viewed from the member end), the sidewalls can define a neck portion. The sidewalls can project laterally out from the neck portion to define an outwardly projecting step-formation. Each sidewall can extend from its respective step-formation to an enlarged head portion of the first elongate member. Thus, in the system of the further aspect, the first (or each) elongate member can be as defined above for the first aspect.

The system of the further aspect also comprises a first panel. Typically, the first panel takes the form of an acoustic panel, baffle or fin. The first panel can be arranged to be located adjacent to the first elongate member. In this regard, an edge of the first panel can locate adjacent to the neck portion of the first elongate member, and a face of the first panel can locate adjacent to the head portion of the first elongate member. Thus, when the first member is mounted with respect to a structure (e.g. a ceiling, ceiling space, false ceiling, roof, etc.), the first member can support thereat a respective edge of the first panel (i.e. the first panel can likewise be mounted with respect to the structure).

For example, where the system of the further aspect only makes use of one elongate member, an opposite edge of the first panel may be supported by an opposing structure (e.g. a wall, post, etc.). Thus, one edge of the first panel can be supported by the first elongate member, and e.g. the opposing edge of the first panel may be supported at the wall, post, etc.

In an embodiment, the system of the further aspect may further comprise a second panel. Typically, the second panel also takes the form of an acoustic panel, baffle or fin. The second panel may be arranged to be located adjacent to an opposite side of the first elongate member to where the first panel is to be located. In this regard, an edge of the second panel can locate adjacent to the neck portion of the member, and a face of the second panel can locate adjacent to the head portion of the member. Thus, the one elongate member can support respective edges of first and second panels at either side thereof.

In an embodiment, the system of the further aspect may further comprise a second elongate member. The second elongate member may be located adjacent to the first elongate member, although typically it is spaced or extends therefrom in use. For example, in one variation, the second elongate member may be spaced parallel to the first elongate member, whereby a first panel can extend between and be supported at its opposing edges by the first and second elongate members. In another variation, the second elongate member may extend at an angle to the first elongate member, whereby a first panel can extend between and be supported at adjacent edges thereof by the first and second elongate members.

In an embodiment, the second elongate member may be arranged so as to support another (e.g. opposite or adjacent) edge of the first panel at the neck portion of the second elongate member, with the face of the first panel locating adjacent to the head portion of the second elongate member. Thus, the first panel can span between and be supported by the first and second elongate members in use.

For example, when the first panel is rectangular or square in shape, and where the first and second elongate members are spaced and parallel, the first panel can be supported at opposing edges, respectively, by the first and second elongate members. In another example, when the first panel is rectangular or square in shape, and where the second elongate member extends orthogonally from the first elongate member, the first panel can be supported at adjacent (i.e. corner) edges by the first and second elongate members.

In a further variation, the second elongate member can also be arranged to extend at a “non-orthogonal” angle to the first elongate member. This arrangement can define an “acute corner” and an “obtuse corner” between the first and second elongate members. A first (e.g. triangular-corner-type) panel may be configured to locate and be supported in the acute corner, and a second (e.g. a trapezoidal-corner-type) panel may be configured to locate and be supported in the obtuse corner.

In an embodiment, the second elongate member may be arranged to extend from an end of the first elongate member. Further, the second elongate member may extend from the first elongate member end at an orthogonal or non-orthogonal angle. Additionally, the second elongate member may extend from the first elongate member end from either an end of the second elongate member, or from an intermediate location of the second elongate member. In each such case, the first panel may span between the first and second elongate members whereby respective edges of the first panel are supported at the first and second elongate members. Further, a second panel may be arranged at an opposite side to the first panel.

In an embodiment, the system of the further aspect may further comprise third and, optionally, fourth elongate members. For example, the second elongate member may be arranged to oppose and be spaced apart from the first elongate member, and the fourth elongate member may be arranged to oppose and be spaced apart from the third elongate member. When the system comprises first to fourth elongate members, these may be arranged and employed to support a first panel having four sides (e.g. square, rectangle, rhombus, trapezium, etc.). In this regard, the first panel may be configured to locate between and be supported at respective edges thereof by the first, second, third and fourth elongate members.

For example, the third and fourth elongate members may extend between and join the first and second elongate members (e.g. form a closed body of elongate members). In this arrangement, the respective ends of the third elongate member

may be located at respective ends of the first and second elongate members, and the respective ends of the fourth elongate member may be located at respective opposite ends of the first and second elongate members.

In an embodiment, the system of the further aspect may comprise more than four elongate members, which can be assembled and arranged in the various configurations as outlined above. For example, the resulting configuration may comprise a five or more-sided regular polygon (e.g. a closed body with equal length sides). Alternatively, the system may be configured in the form of an irregular polygon, i.e. sides of unequal length. The first and further panels to be supported thereat can be configured accordingly.

In an embodiment, the second panel may be configured to surround and be supported at respective inner edge(s) thereof by the first, second, third and, when present, fourth or more elongate members. For example, an inner aperture of the second panel may be configured with the same external shape as the configuration of the first, second, third, or more elongate members.

The system of the further aspect further comprises one or more clamping elements. Each clamping element can be arranged to clamp at least one panel to a respective elongate member. For example, each clamping element can be arranged to be connected to an elongate member at the base of the elongate member.

Each clamping element may be adjustable and can be arranged to apply a clamping force to a respective panel located at the elongate member. In this regard, each clamping element may be connected to a respective elongate member via a rod. Each clamping element may be rotated around the rod between a non-clamping and clamping position.

In a variation, the rod may be threaded, whereby the rod can be screw-adjusted to increase or to release the clamping force.

When in the clamping position, the force that is applied by each clamping element can act at a face of the panel that is opposite to the panel face that is located at the head portion of the elongate member. In an embodiment, each clamping element may be arranged at an elongate member to apply a clamping force to respective panels located at either side of the elongate member.

Also disclosed is a system for mounting a panel such as an acoustic panel, baffle or fin. The system can comprise an elongate member. The elongate member can have a base configured to enable the elongate member to be mounted with respect to a structure. The elongate member can have opposing sidewalls extending from the base. Each sidewall can have a contoured external profile. The contoured external profiles of the sidewalls together can define outwardly projecting head portions separated by a neck portion. In this context, the head portions may be laterally enlarged outer regions of the sidewalls, and the neck portion may be a relatively narrower region located between the head portions. The sidewalls can be spaced to define an opening to the elongate member. The system can further comprise a cover configured to snap- or slide-fit with respect to the head portions of the sidewalls. This arrangement may permit the cover to be installed and removed without requiring separate fasteners in some forms. This may also assist in simplifying assembly and servicing of the system. A snap- or slide-fit cover may further permit a common elongate member profile to be used with different cover lengths or finishes.

Each sidewall may comprise part of an in-use upper head portion and part of an in-use lower head portion separated by a part of the neck portion. The cover may be elongate. The cover may comprise a base and opposing sidewalls that project upwardly in use from opposite elongate sides of the base. Each sidewall may comprise an inwardly projecting flange. The inwardly projecting flange may be configured to connect to the in-use lower head portion of its respective sidewall for retaining the cover at the elongate member. The cover may thereby close the

opening to the elongate member. Closing the opening may reduce visual exposure of internal parts and may assist in protecting housed components. Closing the opening may also reduce the likelihood of dust or debris entering the elongate member in some installations. Retaining the cover by engagement with the lower head portions may further permit the upper head portions to remain available for e.g., cooperation with other parts where required.

Each sidewall may define only part of the overall external profile of the elongate member. More particularly, each sidewall may define a respective half of the head portion arrangement and a respective half of the neck portion arrangement, with the full head portions and the full neck portion being collectively defined by the opposing sidewalls together. Stated another way, neither sidewall need define a complete head portion or a complete neck portion in isolation, and the overall profile may instead be formed by the combined opposed profiles of the two sidewalls.

Each sidewall of the cover may have a curvature that is configured to correspond with at least part of the contour of the outwardly projecting head portions of the elongate member. A corresponding curvature may provide a neater interface between the cover and the elongate member. When the cover is connected to the elongate member, the cover and the elongate member together may form a generally oval shape in profile. A generally oval profile may provide a softened external appearance and may reduce the presence of sharp exposed edges. A corresponding curvature may also assist in reducing gaps between the cover and the elongate member. The generally oval profile may further facilitate use in architectural environments where a less angular exposed form is preferred.

The base of the elongate member may comprise an inwardly formed base recess, the base recess being defined by opposing and inwardly projecting lips. In this context, the base recess may be a channel or cavity formed inwardly of the base for receiving another component. The sidewalls of the elongate member may further comprise inwardly projecting flanges that extend within and/or along the

opening to the elongate member, the spacing between distal ends of corresponding opposing flanges being optimised for receipt therebetween of an elongate edge of a panel. The flanges may act as retaining formations for the panel edge and may assist in positioning the panel edge relative to the elongate member. The base recess may provide a protected location for receiving and retaining a mounting-related component. The lips may assist in capturing such a component against withdrawal transverse to the base recess. The inwardly projecting flanges may further assist in maintaining alignment of the panel edge during insertion.

At least some of the inwardly projecting flanges may take the form of an array of teeth formed on internal recess walls of the sidewalls. The array of teeth may be for guiding insertion and retention of the panel edge. In this context, the teeth may be a series of discrete projections arranged along the recess walls. Such projections may increase engagement with the panel edge and may assist in resisting unintended withdrawal. The array of teeth may also permit localised engagement along the panel edge rather than continuous surface contact. This may assist in accommodating manufacturing tolerances in the panel edge in some forms.

The elongate member may be configured to house a light source. The cover may be formed from a translucent material. In such forms, the elongate member and cover may cooperate to provide both panel mounting functionality and light distribution functionality. A translucent cover may diffuse emitted light and may reduce direct visibility of the light source. This may permit a reduction in the number of separate architectural components used at the installation site. Integrating panel mounting and lighting functions may also assist in achieving a more compact overall assembly.

An end cap may be configured to be mounted to an end of the elongate member by push- or press-fitting. The end cap may comprise a plate and a plurality of boss formations protruding from the plate. The boss formations may have profiles corresponding to internal surfaces of the elongate member. The boss formations

may thereby provide an interference fit when the end cap is mounted to the end of the elongate member. In this context, an interference fit may involve dimensional engagement between parts such that friction assists in retaining the end cap in place. This may permit end closure without separate fasteners in some embodiments. Push- or press-fitting may also facilitate installation at a worksite. Corresponding boss profiles may assist in locating the end cap in a desired orientation relative to the elongate member.

The system may further comprise at least one mounting fixture that is configured for mounting to the elongate member. A portion of the mounting fixture may be configured to locate within the base recess. That portion may be retained therein by the lips. Another portion of the mounting fixture may be able to locate outside of the base recess. That other portion may project away from the base in use. This may permit the mounting fixture to be captured by the elongate member while still providing a part that can interface with the structure. This may further permit the elongate member to be mounted without requiring the mounting fixture to project through the panel-receiving region. Retention of the mounting fixture within the base recess may also assist in reducing visible hardware in the assembled system.

An elongate member for use with the system as set forth above can be configured as set forth above.

An end cap for use with the system as set forth above can be configured as set forth above.

A mounting fixture when used with the system as set forth above can be configured as set forth above.

Also disclosed is a system for mounting a panel such as an acoustic panel, baffle or fin. The system can comprise an elongate member in the form of a channel. The system can further comprise a panel. A base of the channel can be configured

to enable it to be mounted with respect to a structure. Opposing sidewalls of the channel can extend from the base to a distal end edge to define the channel. The sidewalls can be spaced to define an opening to the channel. Each sidewall can further comprise internal formations projecting inwardly from a respective sidewall and extending for a length of the channel. The internal formations may be retaining features located on inwardly facing surfaces of the channel sidewalls. The spacing between sidewalls can be such that an elongate edge of the panel can be located within the opening to the channel to be retained between the flanges. This arrangement may permit direct retention of the panel at the channel without a separate intermediate connector in some forms. This may assist in reducing part count. Direct retention may also assist in reducing the overall size, e.g., weight, width, etc., of the installed assembly in some embodiments.

The system may be otherwise as set forth above.

Also disclosed is a system for mounting a panel with respect to a structure. The system can comprise an elongate member. The elongate member can have a base that is configured to enable the elongate member to be mounted with respect to a structure. Opposing sidewalls can extend from the base. Each sidewall can have a contoured profile. The contoured profiles of the sidewalls together can define outwardly projecting head portions separated by a neck portion. The sidewalls can be spaced to define an opening to the elongate member. The system can further comprise a panel having a recess formed in an edge thereof. The recess can be configured to generally correspond to an external profile of the member. The recess may be a shaped groove or cavity formed in the panel edge. An inner portion of the recess can be enlarged to receive a head portion of the elongate member. An outer portion of the recess can open out of the panel edge and can be configured to receive the neck portion of the elongate member. When the member is located in the panel recess, it can extend transverse to the panel and retain the panel to the member. The cooperation between the recess and the external profile

of the member may assist in locating the panel relative to the member and may reduce relative movement.

The system may further comprise one or more covers. Each cover may be configured to snap- or slide-fit with respect to the head portions of the sidewalls. Each cover may be sized to locate adjacent to at least one panel when the panel is retained at the elongate member. The cover may thereby conceal at least part of the elongate member between adjacent panels or beside a panel, depending on the installation arrangement. This may improve visual continuity along the elongate member. The use of one or more covers may also permit different exposed appearances to be achieved using the same underlying support member.

Two or more panels may be retained at the elongate member. Two or more covers may be mounted to the elongate member. The covers may be mounted to locate adjacent to and between the two or more panels. Optionally or as required, the covers may be mounted to locate adjacent to a panel and extend to an end of the elongate member. This may allow the same general elongate member form to be used in single-panel and multi-panel configurations. This may also assist in adapting the system to different room layouts or panel spacing requirements. The ability to place covers between panels and/or beside a panel may further assist in providing a finished appearance across a range of installation conditions.

The system may further comprise one or two end caps, each for a respective end of the elongate member, each end cap being as set forth above.

The system may further comprise a mounting fixture that is configured for mounting the elongate member with respect to the structure, the mounting fixture being as set forth above.

The system may be otherwise as set forth above.

Also disclosed is system for mounting a panel with respect to a structure. The system can comprise an elongate member. The elongate member can have a base

that is configured to enable the elongate member to be mounted with respect to a structure. Opposing sidewalls can extend from the base. The system can further comprise one or more clips provided as discrete lengths. Each clip can be configured to mount to the sidewalls of the elongate member. The system can further comprise a coupling member supported by the clip. The coupling member can comprise a base and opposing sidewalls that extend from the base to define a recess therebetween. In this context, the coupling member may be an intermediate member that supports the panel and is itself carried by the clip. The system can further comprise at least one panel having an elongate edge that can be located in the recess defined between the opposing sidewalls of the coupling member to be retained thereby. Providing clips as discrete lengths may permit panel support at selected positions along the elongate member. This may assist in accommodating panels of different size, weight, or spacing. Discrete clips may also permit fewer components to be used along portions of the elongate member where support is not required.

Each clip may be configured to snap- or slide-fit with respect to the sidewalls. This may facilitate assembly of the clip to the elongate member. It may also permit the clip to be positioned at a selected location along the elongate member before final engagement.

Each clip may be further configured to interact with a coupling fixture that is configured to enable attachment of the clip to the coupling member. The coupling fixture may be a part or group of parts that mechanically joins the clip and the coupling member. Use of a coupling fixture may assist in separating the function of attachment to the elongate member from the function of supporting the panel. This may facilitate substitution of different coupling member forms while retaining a common clip interface.

The coupling fixture may comprise a captive insert that is able to be secured to the clip. The coupling fixture may further comprise a lug located at an end of the captive insert. The lug may be configured for being coupled to the coupling

member. In this context, the captive insert may be retained by the clip so as to remain associated with the clip during assembly and use. Retaining the insert in captive form may reduce the likelihood of component loss during installation. This may also assist in assembly where access is limited.

The lug may comprise an enlarged head having one or more grooves formed therein. The base of the coupling member may comprise opposing spaced legs. Each opposing spaced leg may comprise an inwardly projecting distal lip. The distal lip may be configured to be received in a groove of the lug for coupling the coupling fixture to the coupling member. The coupling of the coupling fixture to the coupling member may be such as by a sliding of the lug into a recess defined between the opposing spaced legs. The grooves and lips may cooperate to guide assembly and to retain the lug against unintended separation in a transverse direction. Sliding engagement may permit assembly in a controlled direction. Cooperation between the grooves and lips may also assist in distributing load between the coupling fixture and the coupling member.

A base of the clip may comprise an aperture therethrough. The aperture may be for receiving therein the captive insert in a manner that attaches the coupling fixture to the clip. In this regard, the aperture may define the location at which the coupling fixture is joined to the clip.

A bush may extend from the aperture of the clip. The captive insert may extend into the bush when the coupling fixture is attached to the clip. In this context, the bush may be a sleeve-like projection that provides support around the captive insert. The bush may assist in guiding the captive insert and may improve positional stability. The bush may further assist in maintaining the insert in a desired orientation during assembly and use.

The captive insert may be attached in a rotatable manner to the clip such that the coupling member is able to be rotated relative to the clip. This may permit adjustment of the angular orientation of the coupling member and, in turn, of a

panel retained by the coupling member. Rotational adjustment may assist in setting a desired panel presentation angle. This may be beneficial where panels are to be oriented for acoustic, visual, or space-definition purposes.

The sidewalls of the coupling member may be spaced to define an opening to the coupling member. Each sidewall may further comprise internal formations projecting inwardly from a respective sidewall and extending for a length of the member. The spacing between sidewalls may be such that an elongate edge of the panel can be slid laterally through and/or push-fit into the opening to be retained by the internal formations. The internal formations may act as retaining formations for the panel edge. Lateral sliding and push-fit installation options may permit different assembly approaches. This may allow installation procedures to be selected based on available access to the panel edge. The internal formations may also assist in holding the panel edge without requiring separate fasteners through the panel.

The opposing sidewalls of the elongate member may comprise distal ends that are spaced to define an opening therebetween. Each clip may further comprise spaced apart internally projecting catches. The catches may be configured to extend into the opening. The catches may be configured to engage with the sidewall distal ends defined at the opening to the elongate member. The catches may engage with the sidewall distal ends such as by snap-engaging therewith. In this context, the catches may be resilient engagement formations of the clip. Snap-engagement may permit rapid installation of the clip onto the elongate member. Resilient catches may also assist in retaining the clip without separate fasteners. This may permit clips to be added, removed, or repositioned with reduced disruption in some arrangements.

Each sidewall may have a contoured profile. The contoured profiles of the sidewalls may together define outwardly projecting head portions that are separated by a neck portion. The contoured profile may provide an external geometry suitable for cooperation with other components, including the clip and

optional cover. The contoured profile presents a common external geometry that may permit different accessories to engage the same elongate member form. This may assist in modularity of the overall system.

The elongate edge of the at least one panel may be sized to be slid laterally through and/or push-fit between the opposing sidewalls of the coupling member to be retained therebetween. This may permit the panel to be installed after the coupling member has been mounted to the clip. This may also permit replacement of a panel without requiring removal of the clip from the elongate member in some forms.

The system may further comprise one or two end caps, each end cap being as set forth above.

The system may further comprise a mounting fixture configured for mounting the elongate member with respect to the structure, the mounting fixture being as set forth above.

The elongate member may be otherwise as set forth above.

The system may further comprise at least one cover as set forth above.

Also disclosed is a system for mounting a panel with respect to a structure. The system can comprise an elongate member. The elongate member can have a base that is configured to enable the elongate member to be mounted with respect to a structure. Opposing sidewalls can extend from the base. The system can further comprise one or more clips provided as discrete lengths. Each clip can be configured to mount to the sidewalls of the elongate member. The system can further comprise a connection member that is configured to connect to and be supported by the clip. The system can further comprise at least one panel. The at least one panel can be able to be connected to the connection member to be supported thereby when the clip is mounted to the elongate member. The connection member may be any member that provides an interface between the

clip and the panel. This arrangement may permit different panel-support components to be used with a common elongate member and clip architecture. This may assist in adapting the system for different panel types or attachment requirements. It may also permit a common support platform to be used across multiple product variants.

The clip may be configured to receive therein a captive insert that extends from the connection member for attaching the connection member to the clip. The captive insert may provide a part of the mechanical connection between the clip and the connection member. Receipt of the captive insert within the clip may assist in securing the connection member in a defined position relative to the clip.

The captive insert may comprise a threaded rod that is connected to the connection member. The threaded rod may extend from the connection member to be received in a correspondingly internally threaded boss of the clip. A threaded connection may permit secure attachment and may permit replacement or repositioning if required.

Each elongate member sidewall may have a contoured profile. The contoured profiles of the member sidewalls may together define outwardly projecting head portions separated by a neck portion. The sidewalls may be spaced to define an opening to the elongate member. The head portions and neck portion may together define an external shape that is suitable for engagement by the clip and, where provided, a cover. This may permit the elongate member to cooperate with both panel-support components and finishing components.

Sidewalls of each clip may be configured to snap- or slide-fit with respect to the head portions of the sidewalls of the elongate member. This may permit installation of each clip at a desired position along the elongate member. It may also assist in reducing the need for separate fixing hardware between the clip and the elongate member.

The connection member may be a cylindrical member such as a bushing. The bushing may function as a spacer, support, or connector body between the clip and the panel. A cylindrical form may permit convenient orientation or alignment in some embodiments.

The bushing may be solid. The captive insert may extend from the bushing at one end. A connector piece may extend from the bushing at the other end. The connector piece may be configured for being connected to and supporting the panel. This may provide a compact connection arrangement with one side for attachment to the clip and another side for attachment with respect to the panel. This arrangement may also permit the connection member to transmit support loads between the panel and the clip in a direct manner.

The clip may be otherwise as set forth above.

The system may further comprise one or two end caps, each end cap being as set forth above.

The system may further comprise a mounting fixture configured for mounting the elongate member with respect to the structure, the mounting fixture being as set forth above.

The elongate member may be otherwise as set forth above.

The system may further comprise at least one cover as set forth above.

Also disclosed is a clip for mounting to an elongate member as set forth above. The clip can be provided as a discrete length and configured to snap- or slide-fit with respect to outwardly projecting head portions of opposing sidewalls of the elongate member. The clip can be further configured to interact with a coupling fixture to enable attachment of further components. Providing the clip as a discrete length may permit multiple clips to be positioned selectively along a common elongate member. This may assist in tailoring support locations to a

particular installation. It may also permit the same elongate member to be used with a range of component spacing arrangements.

The coupling fixture may comprise a captive insert for attachment to the clip. The captive insert may be provided with a lug for mounting the further components to the clip. The lug may provide an engagement feature for connecting the further components to the clip through the coupling fixture. This may permit the further components to be mounted to the clip through a defined mechanical interface.

The further components may include the coupling member as set forth above or the connection member as set forth above. This may allow the clip to be used with different panel-support arrangements while retaining a common mounting interface at the elongate member. This may assist in providing a modular family of components based on a shared clip format.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments will now be described, by way of example only, with reference to the accompanying drawings in which:

Figures 1A & **1B** are exploded and assembled perspective views of part of a panel mounting system according to this disclosure, when used in a suspended format;

Figure 2 is a front perspective view of the panel mounting system when used in a suspended format with one panel and two members;

Figure 3 is a front perspective view of the panel mounting system when used in the suspended format with multiple panels and two members;

Figure 4 is a front perspective view of the panel mounting system when used in a wall, barrier or divider format with multiple panels and two members;

Figure 5 is an underside plan view of the panel mounting system when used in a suspended or direct-mounted format such as at a ceiling or similar, the system comprising multiple panels and two members;

Figure 6 is a plan view of the panel mounting system of Figure 5;

Figure 7 is an underside perspective view of the panel mounting system when used in a suspended or direct-mounted format at a ceiling or similar, the view illustrating a lighting configuration;

Figures 8A & **8B and Figures 8C** & **8D** respectively show assembled and exploded detail perspective views of two fin-retaining assemblies that form a part of the mounting system as disclosed herein;

Figures 8E & 8F respectively show the two fin-retaining assemblies of Figs. 8A to 8D, where: Fig. 8E shows the fin in line for being push-fit into the channel; and Fig. 8F shows the fin located in the channel.

Figure 9 is an end (profile) view of a preferred member in the form of an elongate channel;

Figure 10 is a side (detail) view of a preferred panel recess that is correspondingly shaped for the elongate channel of Figure 9;

Figure 11 is an end (profile) view of the preferred elongate channel of Figure 9 when assembled and retained in the corresponding panel recess as part of the system as disclosed herein;

Figure 12 is an end (profile) view of a member in the form of an elongate hollow section when retained in a corresponding panel recess as part of the system as disclosed herein;

Figure 13 is an end (profile) view of a member in the form of an elongate channel according to another embodiment;

Figure 14 is an end (profile) view of a member in the form of an elongate channel according to yet another embodiment;

Figure 15 is an end (profile) view of a cover for use with the preferred elongate channel of Figure 9, being the cover as also shown in Figures 1A & 1B;

Figure 16 is a side view of a mounting fixture for use with the preferred elongate channel of Figure 9, being the fixture as also shown in Figures 1A & 1B, 2, 3 & 11;

Figure 17 is a perspective view of an end cap for use with the preferred elongate channel of Figure 9, being the end cap as also shown in Figures 1A & 1B, 2, 3, 8A & 8B;

Figures 18A & 18B are perspective views of two variations of a connector for use with the preferred elongate channel of Figure 9;

Figures 19A – 19F are schematic end views illustrating, in sequence, the assembly of the panel mounting system according to this disclosure;

Figure 20 shows a schematic end view similar to Fig. 19E, but where an end cap or connector variation (e.g. of Fig. 18B) has been secured into one end of the channel.

Figures 21 & 22 are respective upper and underside perspective views of an embodiment of a cloud panel system.

Figure 23 shows a schematic sectional detail view of the system of Figs. 21 & 22.

Figure 24 is perspective view of the cloud panel system with a detailed view of the clamping fixture.

Figure 25 shows a schematic sectional detail view of an alternative embodiment of the system of Figs. 21 & 22.

Figure 26A & 26B are schematic top views of the cloud panel system illustrating two variations of channel configuration.

Figure 27 is an exploded perspective view of a further embodiment of a panel mounting system, the system comprising an elongate member in the form of a channel, an end cap, a cover and a mounting fixture arranged in-line for assembly.

Figure 28 is a detailed perspective view of the channel of Figure 27.

Figure 29 is a detailed perspective view of the cover of Figure 27.

Figure 30 is a perspective view of the system of Figure 27 in an assembled condition, showing the channel with the cover and the mounting fixture connected thereto.

Figure 31 is a perspective view of the channel and cover of Figure 30, shown without the end cap.

Figure 32 is a perspective view of a further configuration of the system, the system comprising the channel, the end cap and the mounting fixture, and further showing multiple covers provided as discrete lengths and a plurality of panels mounted with respect to the channel.

Figure 33 is a perspective view of another configuration of the system, the system comprising the channel, the end cap, the mounting fixture and a clip, the clip supporting a coupling member for receiving and retaining a panel.

Figure 34 is a perspective view similar to Figure 33, showing the channel, mounting fixture, clip and the coupling member arranged in-line for assembly.

Figure 35 is a detailed perspective view of the configuration of Figures 33 and 34, with the end cap removed to illustrate the connection between the channel and the clip and the coupling of the coupling member to the clip.

Figure 36 is a perspective view of a further configuration of the system, the configuration being similar to Figures 33 to 35 but including a discrete coupling member unit arranged to support a panel at an angle relative to the channel.

Figure 37 is an underside perspective view of the configuration of Figure 36, showing the discrete coupling member and its connection to the clip.

Figure 38 is a perspective view of a further configuration of the system, the configuration being similar to Figures 33 to 35 but including a barrel and a tile suspended from the clip.

Figure 39 is a detailed perspective view of the configuration of Figure 38 with the end cap removed, illustrating the connection between the barrel and the clip.

Figure 40 is a perspective view of a further configuration of the system, the configuration comprising the channel and the mounting fixture, and further illustrating a panel edge arranged for insertion into the channel opening for direct retention by internal formations of the channel.

Figures 41a and 41b respectively show the assemblies of Fig. 40, where: Fig. 41a shows the panel in line for being push-fit into the channel; and Fig. 41b shows the panel located in the channel.

DETAILED DESCRIPTION OF SPECIFIC EMBODIMENTS

In the following detailed description, reference is made to accompanying drawings which form a part of the detailed description. The illustrative embodiments described in the detailed description, depicted in the drawings and defined in the claims, are not intended to be limiting. Other embodiments may be

utilised and other changes may be made without departing from the spirit or scope of the subject matter presented. It will be readily understood that the aspects of the present disclosure, as generally described herein and illustrated in the drawings can be arranged, substituted, combined, separated and designed in a wide variety of different configurations, all of which are contemplated in this disclosure.

Figs. 1A & 1B illustrate a system for mounting a panel with respect to a structure. The panel can take the form of an acoustic panel, baffle, fin, blade or fabric but is not so limited. The structure can be a ceiling, ceiling space, false ceiling, wall, frame, divider, partition, border, fixture, furniture, etc., but again is not so limited.

The particular form of the system 10 as illustrated comprises a number of components, including an elongate member in the form of a channel 12. Other channel profiles are illustrated in Figs. 12-14 and will be described later.

Other components of the system, as illustrated in Figs. 1A & 1B, include a panel 40, a securing mechanism in the form of a mounting fixture 50, a terminating end cap 60 and a cover 70.

The channel 12 will initially be described. The channel 12 has a particular type of profile (see especially Fig. 9). In this regard, opposing sidewalls 13 of the channel 12 extend from a channel base 14 such that, when the channel 12 is viewed in profile (i.e. from the end of the channel 12), the sidewalls are configured to define a neck portion N that extends to an enlarged head portion H of the channel 12. This neck N and head H are also present in the channel profiles illustrated in each of Figs. 12-14.

Channel 12 is typically in the form of an extrusion, such that it may be extruded from metal, composite or plastic. However, in a variation to a channel, the elongate member can have a solid form (e.g. to have a rod-like or bar-like form) but can still be formed to have a neck portion and an enlarged head portion. In this case, the elongate member is not able to support therewithin a light source (such

as described below). Further, to enable it to be secured with respect to a structure, the solid rod- or bar-like form may have pilot holes or other formations for fasteners (including for adhesives, or a mounting fixture, etc.).

The channel may have other forms (see e.g. Figs. 13 & 14 as later described). Alternatively, the channel can be replaced with a closed hollow section (see e.g. Fig. 12 as later described). In each case the elongate member can still be formed to have a neck portion and an enlarged head portion.

Each of the opposing channel sidewalls 13 is configured to define an outwardly projecting step-formation in the form of step 15 (i.e. at the juncture of the neck N with the head H). In the channel 12, walls 17 of neck N extend generally orthogonally from the base 14 to the step 15. The step 15 then projects laterally out from each wall 17. The head H comprises walls 19 that each extend from a respective step 15 at an acute angle to a distal end edge 21 of the wall 19. The distal end edges 21 are spaced to define an open end 25 of the channel 12. Alternatively, the walls of the head H can extend such that they are connected (e.g. as a continuous wall), instead of being spaced at their distal end edges (see e.g. the channel embodiments of Figs. 12 & 14).

The base 14 of the channel 12 is configured to enable it to be mounted with respect to the structure. For example, in the embodiment shown in Figs. 1 & 9, an external side of the base 14 (i.e. the side that typically faces the structure) comprises an inwardly formed elongate recess 16. This recess 16 typically extends for the length of the channel and opens out from the base 14. As explained below, the recess 16 can allow for a suitable fastening mechanism to be connected to the base 14. In other variations of the base wall (see e.g. Figs. 12 & 13), the base 14' can comprise a planar wall. Further, the base wall 14" need not be continuous across the width (side-to-side) of the base (see e.g. Fig. 14).

Drill holes or pilot holes can optionally be spaced out along the planar wall of base 14,14',14" to allow for e.g. structure-securing screws, bolts, etc. to be driven

up through the base wall 14,14',14" so as to mount the channel 12 with respect to (e.g. directly to) the structure.

Referring particularly to Fig. 9, the opening to the base recess 16 is further defined by opposing and inwardly projecting lips 18 that extend for a length of the recess (typically for the entire length, but which may extend for discrete length sections of the recess 16). The lips 18 function to provide a structure for a suitable fastening mechanism to be secured to the channel 12.

In the system embodiment of Fig. 1, the suitable fastening mechanism takes the form of an elongate mounting fixture 50. The mounting fixture 50 is also shown in more detail in Fig. 16. The mounting fixture 50 is configured such that it can either be mounted directly to (e.g. by being affixed within) the structure, or it can be suspended/spaced from the structure. In this regard, an in-use upper neck 52 of the mounting fixture 50 is adapted to secure a suspension line 54 (e.g. wire, cable, etc.) thereto, such that the mounting fixture 50 can e.g. hang freely from a structure (e.g. ceiling, roof, etc.).

As shown in Fig. 16, an opposite in-use lower enlarged body 55 of the mounting fixture 50 is configured to locate within the base recess 16 to be retained therein by the lips 18. In this regard, the body 55 is provided with a groove 57 therein. Typically, the groove 57 extends peripherally around the body 55. The groove 57 also defines a head 59 at the in-use lower end of the body 55.

The groove 57 enables the lower end of the body 55 to be slid into the recess 16 from one end of the channel 12. In this regard, and as best shown in Fig. 11, during such sliding in, the lips 18 are received so as to locate in the groove 57, with the head 59 being captured under and retained by the lips 18. Typically, the lips 18 are received in the groove 57 in a snug but slidable fit. When the lower end of the body 55 has located at a suitable position along and in the recess 16, a remainder of the body 55 protrudes outside of the recess 16 so that the mounting fixture 50 projects away from the base in use (e.g. upwardly).

Referring again to Fig. 9, it will be seen that an in-use lower wall 20 of the recess 16 is countersunk at 22 (i.e. at an opposite side of the wall to the recess 16). The countersunk side typically extends for a length of the wall 20 (e.g. for the entire length or for discrete length(s) of the wall). An LED strip light can be located (e.g. affixed, riveted, screwed, etc.) within the countersink 22. The countersink 22 can also be configured (e.g. by spaced-out pilot indentations 24) to have one or more fasteners (e.g. screws, etc.) secured therethrough for direct mounting of the base 14 to the structure). Each indentation 24 can also be countersunk to enable a flush-mounting of a head of the fastener at the wall 20. In this way, the LED strip light can still be flush-located within the countersink 22 to cover each such fastener head.

The distal end edge 21 of each head wall 19 comprises an inwardly projecting lip 30 that runs for a length of the wall 19 (e.g. for the entire length or for discrete length(s) of the wall 19). The lips 30 are arranged to oppose and project towards each other. As best shown in Fig. 11, the lips 30 are configured to retain the cover 70 to close over the open end 25 of channel 12. In this regard, ledges 76 of flanges 74 (described below) of the cover 70 can be retained at the lips 30 such as by a snap- or slide-fit.

As best shown in Figs. 1A and 15, the cover 70 is in the form of an elongate strip 72. The strip 72 is provided with a pair of elongate, upstanding and spaced parallel flanges 74 that each project from and extend along a face of the strip 72. Each flange 74 defines a ledge 76 that is configured to interact with (e.g. by a snap- or slide-fitting) a respective lip 30 defined at a corresponding distal end edge 21 of each head wall 19. In this way, the cover 70 can be readily retained at and thereby cover the open end 25 of the channel 12.

Where multiple panels 40 are to be secured to the channel(s) 12, a number of discrete length covers 70, 70’, 70”, etc. can be employed to between e.g. respective panels 40, 40’, 40” (see e.g. Figs. 5, 7 & 8).

For example, as best shown in Fig. 5, the discrete length covers can have preformed lengths, which then enables a regular spacing of the multiple panels 40 to be achieved. For example, a first end cover 70 can be secured to the channels 12, and then a first panel 40 can be mounted thereto. Then a second cover 70' can be secured to the channels 12, and then a second panel 40' can be mounted thereto. Then a third cover 70" can be secured to the channels 12, and then a third panel 40" can be mounted thereto, and so on for the length of the channels 12.

Each cover 70 can be formed of the same material as the channel (e.g. a metal such as aluminium, plastic, etc.). The cover 70 can be formed from an opaque material. Alternatively, the cover 70 can be formed of a different material to the channel (e.g. from a light-transmissive and/or polymeric material such as PVC, polycarbonate, etc). When formed of a light-transmissive material (e.g. a translucent or transparent material such as a polymer), the channel can hold a source of light (e.g. an LED strip light 78 – Fig. 11) and thereby release light in use (e.g. the released light can pass through the cover and fall onto and/or reflect from panel(s) mounted to the channel, etc.). This lighting effect is schematically illustrated in Fig. 7.

Referring again to Fig. 9, each sidewall 13 of the channel 12 further comprises a flange 32 that projects inwardly from an intermediate location of a respective sidewall. Each such flange 32 can be elongate to extend for a length of a main recess of the channel 12 (e.g. for the entire length or for discrete length sections of the main channel recess). The flanges 32 are opposed to generally project towards each other. For example, each flange 32 as shown is formed as a continuation of the step 15. Each flange 32 comprises a lip 34 that extends at an acute angle from a distal end edge of the flange, the lip projecting generally away from the base 14. The spacing of the distal end edges of the flanges 32 is such that an elongate edge of panel, such as an acoustic fin or blade F, can be positioned between and be retained by the flanges 32.

In this regard, two related fin-retaining assemblies 75 are respectively shown in Figs. 8A & 8B, and Figs. 8C & 8D. In each assembly, the acutely extending lips 34 of the channel 12 help to guide an elongate edge of the panel (e.g. fin or blade F) between the flange distal end edges 33 during insertion of the fin F into the channel 12 (i.e. via the channel open end 25). This insertion process is depicted in Figs. 8E & 8F. Referring to Fig. 8F, engagement of the flange distal edges 33 with the fin F is shown.

As shown in each of Figs. 8A and 8D, a fin or blade F can be push-fit up through the channel open end 25, with opposing side walls of the fin F being gripped and slightly deformed by the opposing lips 34 of the flanges 32, typically until the upper edge of the fin contacts the underside of recess wall 20. Such a push- or press-fit can have sufficient interference/friction that no separate adhesive or other fastener is required.

Figs. 8C & 8D also show a modified (i.e. short) section of cover 70 to be located (e.g. snap- or slide-fit) to the channel 12, on the outside end edge of each fin. Whereas no such short section of cover 70 is employed with the assembly of Figs. 8A & 8B (i.e. the length of fin F is matched to sit within the end caps 60 located at opposing ends of channel 12). In either case, having located fin F in place, respective end caps 60 can be push- or press-fit into the respective ends of the channel 12. Each assembly 75 can be configured such that the end caps 60, and short covers 70 (when used), can contribute to the retention of fin F in channel 12.

The system also comprises a panel 40. As above, typically the panel takes the form of an acoustic panel, baffle or fin. Each panel 40 can be formed of a deformable material such that the channel 12 (e.g. channel) may be push/press-fit into a recess 42 located at a panel edge (e.g. long edge). For example, the panel can be formed of a thermally bonded polymeric (e.g. polyester) fibre material or natural (e.g. wool) fibre material.

As best shown in Figs. 1A and 10, the panel typically has at least one recess 42 formed in the edge thereof. The recess 42 is typically located in an in-use upper edge when the panel is to be suspended (see e.g. Figs. 2 & 3), or at in an in-use side edge when the panel is to be used as a divider, barrier, etc. (see e.g. Fig. 4). For most applications usually two discrete and spaced recesses 42 along the panel edge are sufficient (see e.g. Figs. 2-4). Further, multiple panels 40 can be supported by two spaced channels 12 (see e.g. Figs. 3-6).

As best shown in Fig. 10, each recess 42 is configured to generally correspond to an external profile of the channel 12. Thus, the recess can be provided with an inner recess portion 43 that is enlarged to receive (e.g. snugly or closely) the channel head H. The recess is also provided with an outer recess portion 45 that is configured to receive (e.g. snugly or closely) the channel neck N. The outer recess portion 45 opens out of the panel edge. This enables the channel 12 to be mounted with respect to the structure. In this regard, as best shown in Fig. 11, the base 14 of the channel 12 generally sits flush with the adjacent panel edge, whereby the base is exposed to enable a suitable fastener (e.g. fixture 50 or a screw, adhesive, etc.) to interact therewith (e.g. to mount to or locate at the base 14, to extend through the base 14).

In use, when the channel 12 has been located in the panel recess 42, the panel 40 effectively becomes retained to the channel 12. For example, the channel 12 can be slid laterally through the recess. Additionally or alternatively, the channel 12 can be push- or press-fit into the recess 42, via the open outer recess portion. In this latter case of push/press-fitting of the channel into the recess 42, usually the panel deforms, however, the channel 12 may also be formed of e.g. a deformable material (e.g. polymer) that, to at least some extent, also deforms.

In Fig. 10, it will be seen that the sides of the panel recess 42 are configured to define corresponding inwardly projecting steps 46 (i.e. the correspond to the steps 15 of channel 12). The corresponding step-formations are defined at the juncture of the inner recess portion 43 with the outer recess portion 45. Thus, as shown in

e.g. Fig. 11, when the channel 12 has been located in the recess 42, the corresponding channel and panel steps face each other (typically they abut) to thereby retain the panel 40 to the channel 12.

The upper sides of the outer recess portion 45 are also configured at 47 to taper outwardly (i.e. to open up the entranceway to the outer recess portion 45). The angle of the taper 47 is selected to generally match the angling of the head walls 19. In this way, the passage (e.g. push- or press-fit) of the head H of channel 12 into the recess 42 is facilitated, with the tapered sides 47 guiding the head H into the recess 42.

As set forth above, the system 10 further comprises at least one end cap to close off a respective end of a hollow channel 12. The end cap can take two forms. As shown in Figs. 1-4, 8, 17 & 19, the end cap can take the form of a terminating end cap 60 (i.e. to close off a given end of a channel 12). Where both ends of the channel 12 are exposed, the system can employ two terminating end caps 60 per channel 12.

However, as shown in Figs. 18A and 18B, the end cap can take the form of a connector end cap 80 (in Fig. 18A) and 80’ (in Fig. 18B). When the end cap is in this form, the connector end cap 80,80’ can still function to close off a respective end of a given channel 12, but it can enable a further channel 12 to be joined end-to-end with the given channel.

Usually the terminating end cap 60 and connector end cap 80,80’ are each formed (e.g. moulded from plastic) as a unitary item. The end caps 60 and 80,80’ can optionally be formed of a light-transmissive or opaque material. The end caps 60 and 80 can e.g. aesthetically finish off a system installation 10 and can cover any sharp edges of a respective channel end.

As best shown in Figs. 17 & 19B, the terminating end cap 60 comprises a boss formation 62 that protrudes from a plate 64. The boss formation 62 is formed to have an external profile that generally corresponds to (e.g. closely matches) an

internal profile of a hollow end of the channel 12. This enables the end cap to be push/press-fit into the respective end of the channel 12 (i.e. to be interferingly/frictionally retained at that end).

The boss formation 62 could comprise a single projection, however for ease of use (e.g. to account for manufacturing tolerances) it typically comprises a series of boss inserts in the form of a first pair of opposing neck bosses 65 and a second pair of opposing head bosses 67. Each boss pair projects from the same side of plate 64.

Fig. 19B illustrates a terminating end cap 60 having been secured to an opposite end of the channel 12. As shown, the neck bosses 65 are sized and spaced so as to respectively and closely interface with inside faces of the base 14 and walls 17 of the channel neck portion N. Likewise, the head bosses 67 are sized and spaced so as to respectively and closely interface with inside faces of the step 15 and walls 19 of the channel head portion H.

Fig. 20 shows a variation of the head bosses 67', being a variation that is the same as the variation of the head boss 87' as described below with reference to the modified connector end cap 80'.

As best shown in Figs. 18A & B, the connector end cap 80,80' comprises a pair of opposing boss formations 82 & 83 that protrude form opposite respective sides of a plate 84. Each boss formation 82,83 is formed to have an external profile that generally corresponds to (e.g. closely matches) an internal profile of a hollow end of a respective channel 12. This enables the connector end cap 80,80' to be push/press-fit into the respective ends of the channels 12 (i.e. to be interferingly/frictionally retained between those ends and to thereby join the channel ends together). Thus, the connector end cap 80,80' can be used to lengthen the channels for a given system installation.

Again, each boss formation 82,83 could comprise a single projection, however, again for ease of use (e.g. to account for manufacturing tolerances) each boss

formation 82,83 typically comprises a series of boss inserts. Thus, each boss formation 82,83 comprises a first pair of opposing neck bosses 85 and a second pair of opposing head bosses 87. However, it will be seen in the connector end cap 80' variation of Fig. 18B that the channel-like formation of the head bosses 87' are modified to take the form of a solid projection. This stiffens the head bosses 87', making them comparatively stiffer during insertion into an end of channel 12, but also more robustly secured once in place.

Each boss pair 85,87,87' of each boss formation projects from the same respective side of plate 84. Again, the neck bosses 85 are sized and spaced so as to respectively and closely interface with inside faces of the base 14 and walls 17 of the channel neck portion N, and the head bosses 87,87' are sized and spaced so as to respectively and closely interface with inside faces of the step 15 and walls 19 of the channel head portion H.

It will also be seen that the plate 84 of the connector end cap 80,80' has an aperture 88 formed therethrough. This can allow e.g. the LED strip light 78 to be fed therethrough, from one channel to the next, as well as other services (e.g. cables, conduits, etc.).

Fig. 20 also shows a view similar to Fig. 19E (described later) in which the channel 12 has been located in the recess 42 of a panel 40, but where a terminating end cap 60' or connector end cap 80' has been located in one end of the channel (i.e. in the channel end facing away). Here, it will be seen how the solid formation of each head bosses 67',87' is able to better interface with surrounding wall portions (i.e. step 15, wall portion 19, lips 30 and 34) of the channel 12.

In Fig. 20, it will also be seen that an inside face of each head boss 67',87' generally aligns with the opposing lips 34 of the flanges 32. Likewise, an inside face of each neck boss 65,85 generally aligns with the opposing lips 34 of the flanges 32. Thus, collectively, the lips 34, neck bosses 65,85 and head bosses

67',87' define a channel into which e.g. a portion (e.g. upper corner) of the fin F can be received and retained.

Referring now to Fig. 12, the channel 12 can be replaced with an elongate member in the form of a closed hollow section 90. Section 90 has a similar external profile to that of channel 12. Thus, the section 90 can still be slide- or push/press-fit into the recess 42 of panel 40. However, the open end 25 of channel 12 is replaced with a closed wall 92. Further, to enable section 90 to be secured with respect to a structure, the closed wall 92 and the base wall 14' may each have apertures, pilot holes or other formations for fasteners (including for adhesives, or a mounting fixture, etc.).

Referring now to Fig. 13, the channel 12 can be modified to have a "diamond" profile 100. Again, the profile 100 has a neck portion N that extends to an enlarged head portion H, so that the profile 100 can still be slide- or push/press-fit into a suitably profiled recess of panel 40. The open end 102 of profile 100 comprises inwardly projecting lips 104 that each run for a length of the profile (e.g. for the entire length or for discrete length(s) thereof). The lips 104 are arranged to oppose and project towards each other. As with channel 12, the lips 104 are configured to retain the cover 70 to close over the open end 102 of profile 100, such as by a snap- or slide-fit. Further, to enable the profile 100 to be secured with respect to a structure, the base wall 14' can have apertures, pilot holes or other formations for respective fasteners (including for adhesives, or a mounting fixture, etc.).

Referring now to Fig. 14, the channel 12 can be modified to have a bulbous profile 110. The enlarged head portion H defines a "bulb" of the bulbous profile 110. An opening 112 of the profile 110 is defined at an opposite side (e.g. within the base 14") of the profile. Again, the profile 110 has a neck portion N that extends to the enlarged head (or bulb) portion H, so that the profile 110 can still be slide- or push/press-fit into a suitably profiled recess of panel 40.

The enlarged head portion H (bulb) of the bulbous profile 110 comprises a rebate 114 (i.e. at a location that opposes the opening 112). The rebate 114 comprises a wall 116 that runs for a length of the profile 110 (e.g. for the entire length or for discrete length(s) thereof). An LED strip light 78 can be secured to wall 116 to locate within the rebate 114.

Further, to enable the profile 110 to be secured with respect to a structure, the base wall strip portions 14" can have apertures, pilot holes or other formations for respective fasteners (including for adhesives, or a mounting fixture, etc.).

The system 10 as described herein can provide for "universal" panel mounting. In this regard, the system 10 can accommodate a range of panel widths (e.g. ranging from 4mm to 150mm panel thicknesses). The system 10 can also accommodate a range of panel lengths (e.g. more than two spaced channels 12 can be mounted with respect to a given structure to support very long panels).

Because each channel 12 can be suspended (e.g. spaced) or direct-fixed to a structure, the system can allow for quick and easy installation. The system 10 can be factory prefabricated in a factory (e.g. according to the specifications of a given site). The system 10 can be supplied as a kit (e.g. along with installation instructions). The kit can comprise one or more (typically two) channels, one or more panels, a set of covers, end caps and connectors, two mounting fixtures per channel (i.e. four/kit), each being as set forth above. The channels, covers, end caps, connectors and mounting fixtures of the kit may be supplied separately and without the panels. For example, panels may be pre-formed and supplied separately to other components of the kit.

The system 10 is modular, in that channels 12 and panels 40 can each easily be adapted (e.g. joined and/or resized) on site to suit the particular application, including by making use of the kit including the covers 70, terminating end caps 60 and connector end caps 80, as outlined above.

Referring now to Figs. 19A to 19F, a method for mounting a panel as set forth above with respect to a structure will be described. The method can be employed to install one or a series of such panels using one or a series of elongate channels as set forth above. The method can be used to install such panel(s) at or in relation to a ceiling, ceiling space, false ceiling, wall, frame, divider, partition, border, fixture, furniture, etc. The panel to be installed can take the form of an acoustic panel, baffle or fin, but again is not so limited.

As illustrated by Fig. 19A, step 1 of the method comprises mounting a base wall 14 of the channel 12 with respect to the structure. Typically, two pre-suspended or pre-affixed mounting fixtures 50 are each connected to the base wall 14 in the manner as set forth above. The flexibility of suspension line 54 allows the head 59 of each mounting fixture 50 to be manoeuvred to locate within the base recess 16 to be retained therein by the lips 18. When each mounting fixture 50 is pre-affixed into the structure (e.g. ceiling, wall, etc.), the recess 16 of channel 12 can be slid onto the head 59 thereof.

As illustrated by Fig. 19B, step 2 of the method comprises mounting a terminating end cap 60 into one end of the channel 12. In a variation, a connector end cap 80 can be mounted into one end of the channel 12.

As illustrated by Fig. 19C, step 3 of the method comprises locating the channel 12 within a panel recess 42 to secure each panel to a given channel (i.e. that has already been pre-mounted with respect to the structure). Typically, each panel 40 is lifted up and into engagement with the channel 12 (see arrow), with each channel 12 being push/press-fit into the recess 42 via the outer recess portion 45 (i.e. with the tapered walls 47 at the entranceway facilitating the passage and thus the push- or press-fit of the head H into the recess 42. In a variation, the channel 12 can be slid and/or snapped into the recess 42 (i.e. laterally from a side face of the panel 40, with the option of sliding and snapping-in taking place simultaneously).

Fig. 19D shows the channel 12 now located snugly with the recess 42, thereby retaining the panel with respect to the structure.

As illustrated by Fig. 19E, step 4 of the method comprises locating each discrete length of cover 70 (i.e. between adjacent panels in a multi-panel set-up) to close over the open end 25 of the channel 12. Each discrete length of cover 70 is typically retained by a snap- or slide-fit, with the flanges 74 interacting with respective lips 30 at the open end 25.

As illustrated by Fig. 19F, step 5 of the method comprises the mounting of another terminating end cap 60 into the opposite end of the channel 12. In a variation, a connector end cap 80 can be mounted into the opposite end of the channel 12, whereby further lengths of channel can be joined end-to-end.

As indicated above, it will be understood that steps of the method as described herein can be varied to accommodate differing numbers of channels, channel lengths, channel spacings, panels, panel lengths, panel widths and panel thicknesses. Also, a number of panels may be mounted to the channel(s) in a variable (rather than evenly) spaced manner, and a multi-channel spacing may be uneven. Thus, a given installation may comprise any number of variably spaced channels and any number of variably spaced and varying panels. Different combinations of channel and member types can also be employed.

It should also be understood that, whilst each panel 40 has been shown (and has been configured) to be mounted to each channel 12 in a generally orthogonal arrangement (i.e. each panel 40 is shown extending at a right angle to the longitudinal axis of each channel 12), the panel 40 can be reconfigured to mount at an angle other than ~90° to the longitudinal axis of each channel 12. Further, whilst each channel 12 has been depicted as being straight, one or more of the channels 12 may be curved, angled or generally non-linear, with the panel(s) and recesses 42 being reconfigured accordingly.

Each of the opposing channel sidewalls 13 is configured to define an outwardly projecting step-formation in the form of step 15 (i.e. at the juncture of the neck N with the head H). In the channel 12, walls 17 of neck N extend generally orthogonally from the base 14 to the step 15. The step 15 then projects laterally out from each wall 17. The head H comprises walls 19 that each extend from a respective step 15 at an acute angle to a distal end edge 21 of the wall 19. The distal end edges 21 are spaced to define an open end 25 of the channel 12. Alternatively, the walls of the head H can extend such that they are connected (e.g. as a continuous wall), instead of being spaced at their distal end edges (see e.g. the channel embodiments of Figs. 12 & 14).

Referring now to Figs. 21-24, a system 100 is shown which can provide a ‘cloud’ panel mounting arrangement. In its most basic form, the system 100 can comprise just one channel 12 (i.e. as set forth and described above) and just one panel 140 (i.e. similar to the panel 40 as set forth and described above). In this regard, the panel 140 can take the form of an acoustic panel (e.g. of a thermally bonded polymeric (such as polyester) fibre material or natural (such as wool) fibre material).

When channel 12 is employed to provide a cloud panel mounting arrangement, and as best shown in Fig. 23, a side edge 141 of the panel 140 can be located at (i.e. adjacent to or in abutment with) one of the channel sidewalls 13 (i.e. adjacent to the neck portion N). In addition, an in-use lower face 143 of the panel 140 can locate on, and be supported by, the step 15 (i.e. at the juncture of the neck N with the head H). Thus, the panel side edge 141 can, along its length, be supported by the channel 12. Initially, the panel 140 can simply locate on the step 15 under its own weight.

However, Fig. 23 also shows a clamping element in the form of a rotatable clamp 144. The clamp 144 is arranged to clamp and hold the panel side edge 141 against the channel 12 in use (i.e. to secure the panel 140 in its location on step 15). The functioning of clamp 144 is explained in further detail below.

Further, Fig. 23 shows a mounting fixture 50 (i.e. as set forth and described above). Again, the mounting fixture 50 is configured such that it can either be mounted directly to (e.g. by being affixed within) a structure (such as a ceiling, roof, false ceiling, etc.), or it can be suspended/spaced from the structure (e.g. ceiling, roof, false ceiling, etc.) via the suspension line 54.

In the basic form of system 100, just side edge 141 of panel 140 is supported at a single channel 12. An opposite side of panel 140 can be supported at some other structure, such as a post, panel, wall, etc. For example, the panel could span between a wall and the channel 12. However, typically the channel 12 and panel 140 form part of a suspended “cloud” system. These more complex forms of the system 100 will now be described.

In this regard, the system 100 can comprise a second panel 142. Panel 142 is similar to panel 140, although it is configured/shaped differently (i.e. in the embodiment of Figs. 21-24). Further, the system 100 can comprise a second channel 12’ that is arranged to be spaced apart from but parallel to the channel 12. An opposite side 145 of panel 140 can be supported at the channel 12’, in a similar manner to the side 141, but at an opposing side of channel 12’ to that of channel 12. Thus, in a more complex form, the system can comprise two channels 12,12’ and either one panel 140, or two panels 140,142.

As best shown in Fig. 23, the panels 140 and 142 are configured to generally correspond to and nest (e.g. snugly or closely) at step 15. In this regard, the panels 140,142 each have a thickness such that, in use, they generally sit flush with the channel base 14. This allows the panels to interact more evenly with the clamp 144.

Additionally, in a yet more complex form, the system 100 can comprise parallel and spaced-apart transverse channels 120 and 120’. The transverse channels are each arranged to extend between the channels 12,12’ as shown in e.g. Figs. 21,22 & 24. In this regard, the ends of transverse channels 120,120’ can extend from

and between respective ends of the channels 12,12'. Thus, the channels 12,12',120,120' can be employed to form a square or rectangular mounting frame for supporting the first and second panels 140,142 in a cloud-type arrangement.

In this regard, in the embodiment of Figs. 21-24, the opposing channels 120,120' are orientated generally at right-angles to the channels 12,12'. In Fig. 21, the ends of each channel 120, 120' are shown abutting at the end sides of the adjacent channels 12,12'. However, in a variation shown in Figs. 22 & 24, the juncture between channels 12,12' and channels 120,120' are defined as mitre-joints (i.e. the terminal ends of channels 12,12' and 120,120' are each angled (e.g. cut) at 45^{o} so as to form the 90^{o} corner angle).

Further, in the embodiment of Figs. 21-24, the panel 140 is configured with a square or rectangular shape to sit snugly within the mounting frame defined by channels 12,12',120,120' in the cloud-type arrangement. Likewise, the panel 142 is configured with a central rectangular cut-out 147 to locate snugly on the outside of (i.e. to surround) the mounting frame defined by channels 12,12',120,120' in the cloud-type arrangement. Thus, each channel 12,12',120,120' supports a respective edge of panel 140 and panel 142 on either side thereof.

Further, it will be seen that a respective leg 149 and 149' of each clamp 144 is arranged to clamp and hold a respective side edge of the panels 140,142 against the channels 12,12'. In this regard, to hold the panels 140,142 in place within the mounting frame, only the channels 12,12' need be provided with a respective pair of spaced clamps 144.

Additionally, to suspend the mounting frame from a structure (e.g. ceiling, roof, false-ceiling, etc.), only the channels 12,12' need be provided with a respective pair of spaced mounting fixtures 50.

Referring in particular to Figs. 23 and 24, it will be seen that each clamp 144 is in the form of a bracket defined by an elongate strip that is bent to assume a C-shaped cross-sectional profile. The bracket can be formed from a rigid material

(e.g. a metal such as aluminium, or a plastic such as polycarbonate, etc.). The legs 149,149' of clamp 144 extend downwards from a central part 151 to project to and contact respective side edges of panels 140, 142. The central part 151 of clamp 144 is mounted at its center to channel 12,12' by a rod 148 (e.g. a pin, bolt, screw, etc.). An in-use lower end of each rod 148 is configured to locate in base recess 16 defined in the channel base 14 by opposing and inwardly projecting lips 18 (i.e. in a similar manner to the lower end of the mounting fixture 50).

In use, each clamp 144 can be rotated with respect to its rod 148 between a non-clamping orientation (i.e. legs 149,149' sitting above a respective channel 12,12') and a clamping orientation (i.e. legs 149,149' sitting above a respective side edge of panels 140, 142). When each clamp is in the non-clamping orientation, the panels 140,142 can be dropped into place on the mounting frame. Thereafter, the clamps can be rotated into the clamping orientation to secure each panel 140,142 to its respective channel 12,12',120,120'. As best shown in Fig. 21, four clamps 144 are evenly spaced along the channels 12,12' to sufficiently secure panels 140,142 in place.

In a variation of the clamp 144, the in-use lower end of the rod 148 can be mounted to the base 14 of channels 12,12' as per the mounting fixture 50 described above. However, an opposing in-use upper end of the rod 148 can be externally threaded to engage with a corresponding internally threaded hole defined in the center of clamp central part 151. Thus, once each clamp 144 has been rotated into the clamping orientation (legs 149,149' above panels 140,142), the rod 148 can be rotated (e.g. screw-driven) relatively to the threaded hole of clamp central part 151, in a manner that drives the legs 149,149' down securely into the panels 140,142.

In the system 100, one or more of the channels 12,12',120,120' can hold a source of light (e.g. an LED strip) and thereby release light in use. In the embodiment shown in Fig. 23, an LED strip light 152 is shown mounted (e.g. affixed, riveted, screwed, etc.) at the countersink 22 of the lower wall 20 defined within the

channel 12. Further, a cover 70, formed of a light-transmissive material, can be installed at the distal end edges 21 of channel 12 to enable light to project outwards from system 100.

Typically, in-use, the system 100 hangs freely from a structure (e.g. ceiling, roof, etc.) in a substantially horizontal orientation, to function as a so-called cloud panel. However, it should be understood that, whilst the embodiments of system 100 are illustrated as generally horizontal, system 100 may be inclined at angles other than horizontal (i.e. at angles greater to or less than horizontal). Further, rather than being suspended, the system may be affixed to the underside of a ceiling, roof, etc.

It should be understood that, whilst the embodiments illustrated are rectangular in shape, the channels 12,12',120,120' can be reconfigured (e.g. in length, number and angle of extent to other than ~90°) to form alternative, e.g. regular or irregular polygons (i.e. with irregular polygons having channels of unequal length). For example, embodiments of the mounting frame may comprise less or more than four channels 12,12',120,120' (e.g. three, five, six, seven, etc. channels) arranged as closed polygonal shapes. Further, whilst each channel 12,12',120,120' has been depicted as being straight, one or more of the channels may be curved or generally non-linear. The panels 140,142 can be reconfigured according to the shape of the mounting frame.

In another embodiment, the mounting frame may be configured to form an open body shape (as opposed to the closed body shape of Figs. 21-24). For example, a first channel 12 can be arranged parallel to and spaced apart from a second channel 12', but without any channels 120,120' extending/connecting therebetween. In this open configuration, a single panel 140 is able to span between the first and second channels 12,12' (i.e. the panel is only supported at its opposite edges by the first and second channels 12,12', and not at its end edges). Such an open arrangement can, for example, also be used to span a ceiling, roof, etc.

In this regard, and as best shown in Fig. 25, a number of parallel channels 12,12',12" etc. can be provided (e.g. suspended or affixed in parallel), with respective panels 140,140',140", 140"', etc. being located between opposing, adjacent panels across the span of the ceiling, roof, etc.

In another open mounting frame embodiment, a first channel 12 can be arranged at an angle to a second channel 12'. As best shown in Figs. 26A and 26B, for example, the first channel 12 can be located at an end of the second channel 12', with either an end of the first channel 12 locating at the end of the second channel 12' (Fig. 26A), or an intermediate location of the first channel 12 locating at the end of the second channel 12' (Fig. 26B). In each case, a panel 140 is able to span between the first and second channels 12,12' but, in this case, only adjacent edges of the panel are supported at the first and second channels 12,12'.

In a further embodiment of the system for mounting a panel with respect to a structure, Figure 27 presents an exploded perspective view in which the system 200 includes an elongate member in the form of a channel 202, an end cap 204, a cover 206 and a mounting fixture 208 arranged in-line for assembly. The mounting fixture 208 is configured to mount at a base 210 of the channel 202. In particular, the fixture 208 is configured to engage a base recess 212 of the base 210; the end cap 204 is arranged to push- or press-fit into an open end of the channel 202 to terminate the profile; and the cover 206 is arranged to snap- or slide-fit with respect to sidewalls 216 of the channel 202.

Referring now to Figure 28, the opposing sidewalls 216 each extend from the base 210 to trace a wave-like contour comprising two outward crests: in-use lower crest 214a and in-use upper crest 214b. The two crests are separated by a central trough 218 or 'waist' constituting a neck portion 218. In functional terms, the crests 214a, 214b define respective head portions 220, while the neck portion 218 defines a guided passage for connecting to the cover, as set forth in more detail later.

The sidewalls 216 each extend from the base 210 to an opening 224 located between the in-use lower crests 214a. The opening 224 provides access to a main internal recess 228 of the channel 202 and is shaped to optionally receive channel auxiliary fittings as set forth later (see Figs. 33 to 40). An array of teeth 230 may be formed on an internal recess wall 232 which can assist in guiding insertion and retention of an optional panel 'P' edge into the opening 224 (see described in relation to Figs. 40, 41a and 41b).

The sidewalls 216 further comprise inwardly projecting flanges 234 that extend along the internal recess 228 at the opening 224. The spacing between distal ends 236 of these flanges is selected to optionally receive an elongate edge of the panel P so that the flanges can also apply opposed gripping forces (see described in relation to Fig. 40).

Referring now to Figure 29, the cover 206 takes the form of an elongate strip having curved sides 238 and opposing edges 240, and spaced, longitudinal flanges 242 extending along an inner face of the curved sides 238. Each flange 242 defines a ledge configured to snap- or slide-fit with the in-use lower crests 214a of the sidewalls 216 so that the cover closes the opening 224 to the channel 202. The cover 206 thereby enables a rapid, tool-minimal closure, for example to protect internal services such as electronics.

When assembled to the channel 202, as shown in Fig. 30, the curved sides 238 angle towards the base 210 of the channel such that the opposing edges 240 form a smooth transition of the cover sides into the channel 202. Advantageously, this creates clean visual lines between the sidewalls 216 and the cover 206. Selectable lengths of the cover 206 can facilitate modular spacing.

The wave-like arrangement of the sidewalls 216 provides a natural lead-in for the cover 206: the in-use lower crest 214a forms a snap surface for guiding the cover flanges 242 thereover and toward the neck portion 218. The neck portion 218 functions to position and align the cover 206 over the opening 224 of the channel

202. Advantageously, the twin head portions 220 provide broad, stable bearing surfaces for the cover 206, improving retention under vibration and minimizing localized wear on the cover flanges.

Referring again to Figure 28, the base recess 212 of the channel 202 is formed inwardly in the base 210 and its opening is defined by lips 244. The base 210 may further include a base wall 246 spaced from the lips 244. A cross-member 247 is provided, in use, below the base wall 246 and extends between the internal walls 232 for strengthening the channel section. The cross-member 247 can comprise countersunk regions 247a centrally aligned with the recess 224 to permit direct fixing by fasteners (through the recess 228) while maintaining a flush underside suitable for locating ancillary components such as linear lighting. When such lighting is employed, the cover 206 may be formed from a translucent material so that light emitted within the channel 202 is diffused outwardly, improving visual uniformity and minimizing glare.

Referring now to Fig. 30, the mounting fixture 208 comprises a suspension neck 248 and an enlarged head 250. The neck 248 is narrowed relative to the head to enable the head 250 to be slid into the base recess 212 from an end of the channel 202, with the neck 248 receiving the lips 244 so that the head 250 is captured beneath the lips 244. Once received in the base recess 212, the head 250 (and, in turn, the mounting fixture 208) can be positioned along a length of the channel 202. The mounting fixture 208 in such a location protrudes from the base 210 in use to support either direct fixing or suspension from a structure. Sliding of the captured head 250 beneath the lips 244 permits pre-positioning and fine adjustment along the channel and allows for a transfer of loads centrally into the base 210 to improve stability.

Referring again to Figure 27, the end cap 204 comprises a plate 256 from which boss formations 258, 259, 262 protrude. The boss formations include neck bosses 258, crest bosses 259 and head bosses 262 profiled to closely match respective internal surfaces of the internal walls 232, the lower crest 214a and the base recess

212 of the channel 202 to achieve a push- or press-fit that terminates and aesthetically finishes the channel end. The push- or press-fit provides an interference retention that secures the end cap 204 in the channel walls to prevent migration of the mounting fixture 208, inserted panels/fins or auxiliary fittings located within the member.

A first configuration of the system 200 is shown in Figures 27 to 31 and includes the channel 202, the mounting fixture 208, a single cover 206 and the end cap 204. In this configuration, the components are assembled, as set forth above, to form a compact suspension-ready rail with a continuous cover. The channel 202 is equipped with the mounting fixture 208 by sliding the head 250 into the base recess 212 and positioning along the channel for desired suspension points. The single cover 206 is snap- or slide-fit onto the in-use lower crests 214a to close the opening 224 and the end cap 204 is push- or press-fit into the exposed channel end.

A second configuration of the system 200 is shown in Figure 32 and includes the channel 202, the mounting fixture 208, the end cap 204 and multiple covers 206 provided as discrete lengths. In this configuration, the covers are located at repeated intervals so that a plurality of panels P can mount along one member in a spaced array generally orthogonal to the channel 202. The discrete covers 206 are installed on the in-use lower crests 214a to define spacing, and the panels can be push- or press-fit to the channel between the covers.

A third configuration of the system 200 is shown in Figures 33 to 35 and includes the channel 202, the mounting fixture 208, a clip 257, an end cap 255 and a coupling member 261 for supporting a panel P therein. The clip 257 has substantially the same features as the cover 206 described previously, i.e., curved sides 238, opposing edges 240 and spaced, longitudinal flanges 242 configured to snap- or slide-fit at the in-use lower crests 214a of the sidewalls 216. In addition to this, the clip 257 additionally supports the coupling 261 thereat. The end cap

255 is also similar to the end cap 204, differing in that it is arranged to push- or press-fit into an open end of the coupling 261 to terminate the profile.

So that the clip 257 can support the panel received therein, the clip 257 further comprises catches 269 configured to connect to the flanges 234 at the opening 224. In particular, the clip 257 is connected to the flanges 234 at the opening 224 by the catches 269 that are configured, i.e., complementarily shaped to register adjacent to the distal ends 236 and bear on the flanges 234.

The clip 257 further carries coupling fixtures in the form of connection members 264 (i.e., a bush or bushing) that are secured to the clip (e.g., by a threaded or staked attachment into the cover) and are retained against pull-through by an enlarged collar 266.

In this third configuration, each connection member 264 can comprise a captive insert, i.e., a threaded lug 265 for being received in a corresponding threaded aperture 267 of the connection member. The lug 265 comprises grooves 268 configured to receive lips 274 that project inward from upwardly extending formations 272 in a web 270 of the coupling. The formations 272 extend from the web 270 and turn inward so that the lips 274 face toward each other. During assembly, the groove of the lug 265 can slide between the lips 274 for moving along the elongate length of the channel 202.

The lug 265 can be screw-driven into or out of the connection member 264 to vary its protrusion, thereby setting a space between the coupling and the clip 257. This controlled adjustment allows the coupling to be spaced at a prescribed distance from the cover 206 and thus, from the channel 202 providing fine tuning of panel clearance and levelling.

A panel edge can be inserted into a recess 279 of the coupling and retained either by an interference fit between the channel legs 277 (e.g., via coupling teeth 271), or by fasteners driven through the coupling web 270 into the panel edge to

provide positive mechanical fixation. Once either process is utilised to secure the panel, the coupling can be secured to the lug as set forth above so that the panel hangs beneath and generally parallel to the channel 202.

A fourth configuration of the system 200 is shown in Figures 36 and 37 and includes the channel 202, the mounting fixture 208, the clip 257 and a discrete, shortened coupling unit 263. Here, each lug 265 is passed through an aperture formed in a web 281 of the shortened coupling 263 and then screwed into the connection member 264 of the clip 257, thereby clamping the web between the insert collar and the cover to secure the coupling at the cover. This through-web attachment fixes the discrete coupling at a prescribed angle relative to the channel 202, allowing the panel P to be oriented at a selectable angle.

The shortened coupling unit 263 is generally configured like the coupling 261 of the third configuration, i.e., having the web 281 and legs 283 extending therefrom. Teeth 285 are provided on an internal face of the legs for securing a face of the panel P when located therebetween.

A fifth configuration of the system 200 is shown in Figures 38 and 39 and includes the channel 202, the mounting fixture 208, the clip 257, a barrel 292 and a tile 294. In this configuration, the barrel 292 is configured to locate the tile beneath the channel 202, with the barrel connected between the tile and the clip 257, presenting a suspended tile arrangement aligned with the channel. The cover 206 engages the crests 214a as set forth previously and mates to the barrel 292. A captive insert, i.e., a threaded rod 291 extending from one end that connects with a connection member 264, i.e., a bush or bushing, of the clip 257 as described earlier. Advantageously, this allows the barrel and tile to be adjusted, i.e., spaced from the channel, as set forth in relation to the coupling 261,263 of the third and fourth configurations.

A sixth configuration of the system 200 is shown in Figure 40, 41a and 41b. The system includes the channel 202, the mounting fixture 208 and a panel P inserted

directly to the channel without intermediary hardware or auxiliary fittings. In this configuration, the components arrange the panel edge to be received within the opening 224 so that the panel spans below the channel 202 in a generally parallel relation.

A process of insertion of the panel into the channel is shown in Figs. 41a and 41b. It can be seen that, once the panel is inserted in the channel, e.g., by push fit, the array of teeth 230 on the internal recess wall 232 guides the panel edge and provides a compressive, interference fit, while the flanges 234 with distal ends 236 can locate close to, or at the opposing faces of the panel. In some configurations, the distal ends can apply some opposed gripping forces to provide additional retention to the panel without separate fasteners.

When direct panel retention is not required, the opening 224 can be closed (at least partially) by the cover 206 as set forth previously, to provide an exterior surface.

In the claims which follow and in the preceding description, except where the context requires otherwise due to express language or necessary implication, the word “comprise” or variations such as “comprises” or “comprising” is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the system and method as disclosed herein.

CLAIMS

1. A system for mounting a panel such as an acoustic panel, baffle or fin, the system comprising an elongate member in the form of a channel, the system further comprising the panel, a base of the channel being configured to enable it to be mounted with respect to a structure, with opposing sidewalls of the channel extending from the base such that, in profile, the sidewalls define a neck portion that extends to an enlarged head portion of the channel,

wherein the sidewalls are spaced to define an opening to the channel, each sidewall further comprising a flange that projects inwardly from a respective sidewall, the spacing of a distal end edge of each flange being such that an elongate edge of the panel can be located within the opening to the channel to be retained between the flanges.

2. A system according to claim 1, wherein each flange projects inwardly from the sidewall, either from an intermediate location along the sidewall and/or from a distal end of the sidewall, and wherein each flange extends for a length of the channel.

3. A system according to claim 2, wherein:

(i) in one form of the channel, a first flange projects inwardly from an intermediate location of the sidewall, the first flange comprising a lip that extends at an acute angle from the distal end edge of the flange and away from the base for guiding the panel therebetween, and a second flange projects inwardly from a distal end of the sidewall, the second flange projecting towards a corresponding second flange of the opposing sidewall;

(ii) in another form of the channel, a series of flanges in the form of teeth-like ridges project inwardly from an intermediate location of the sidewall, the teeth-like ridges being configured for gripping onto sides

of the panel that are located adjacent to the elongate edge of the panel, and a second flange projects inwardly from a distal end of the sidewall, the second flange projecting towards a corresponding second flange of the opposing sidewall.

4. A system according to any one of the preceding claims, wherein the panel elongate edge can be push-fit into the channel opening to be retained between the flanges and/or slid longitudinally through an open end of the channel to be retained between the flanges.

5. A system according to any one of the preceding claims, wherein the flanges of each sidewall generally project towards each other.

6. A system according to any one of the preceding claims, wherein each sidewall comprises a plurality of flanges that each project inwardly from a respective sidewall.

7. A system according to any one of the preceding claims, wherein the spacing of opposing distal end edges of corresponding opposing flanges is such that the panel elongate edge is able to be retained by and between the flanges.

8. A system according to any one of the preceding claims wherein each sidewall is defined by an outer sidewall portion that is spaced from an inner sidewall portion such that the opening to the channel is defined between the inner sidewall portions, and wherein the or each flange is located to project inwardly from a respective inner sidewall portion.

9. A system according to any one of the preceding claims wherein an external side of the base of the channel comprises an inwardly formed elongate recess that opens out from the base, the opening to the base recess being defined by opposing and inwardly projecting lips that extend for a length of the base recess.

10. A system according to claim 9, the system further comprising a mounting fixture, the mounting fixture being configured for mounting to a structure, with a portion of the mounting fixture being configured to locate within the base recess and be retained therein by the lips, and with another portion of the mounting fixture able to locate outside of the base recess to project away from the base in use.

11. A system according to any one of the preceding claims, the system further comprising at least one end cap, each end cap being configured for secure location at a respective end of the channel whereby each end cap comprises a boss that protrudes from a plate, the boss having an external profile that generally corresponds to an internal profile of the channel, such that the end cap can be push-fit into the respective end of the channel.

12. A system according to claim 11 wherein each end cap takes the form of a connector that has bosses that protrude from respective, opposite sides of the plate, each boss having an external profile that generally corresponds to an internal profile of the channel, whereby each boss may be push-fit into an end of a respective channel such that the connector can extend between and connect adjacent channels end-to-end.

13. A channel for use with the system as set forth in any one of the preceding claims, the channel being configured as set forth in any one of the preceding claims.

14. An end cap for use with the system as set forth in any one of claims 1 to 10, the end cap being configured as set forth in any one of claims 11 to 12.

15. A mounting fixture when used with the system as set forth in any one of claims 1 to 12, the mounting fixture being configured as set forth in claim 10.

16. A mounting fixture according to claim 15, the mounting fixture being elongate, with one end of mounting fixture being configured for mounting to, such

as by being suspended from or affixed within, the structure, and with the other end of the mounting fixture optionally having a peripheral groove defined therein, whereby the groove enables said other end of the mounting fixture to locate within the recess formed at the base and be retained by the lips locating in the groove.

17. A kit for use with the system as set forth in any one of claims 1 to 12, the kit comprising one or more of a channel, end cap, mounting fixture or one or more panels.

18. A method for mounting a panel with respect to a structure, the method comprising:

i. mounting a base of a channel with respect to the structure, the channel being configured as set forth in any one of claims 1 to 12;

ii. mounting a panel to the channel, the mounting of the panel to the channel being by way of locating an elongate edge of the panel within the channel opening to be retained between the flanges.

19. A method according to claim 18 wherein the panel is mounted to the channel by push-fitting the elongate edge of the panel into the channel opening to be retained between the flanges and/or by sliding of the panel through an open end of the channel to be retained between the flanges.

20. A method according to claim 18 or 19 wherein the or each channel is mounted directly to the structure, such as via one or more fasteners, or wherein the or each channel is mounted indirectly to the structure, such as via one or more mounting fixtures, to be suspended or spaced with respect to the structure, each mounting fixture optionally being configured as set forth in claim 10.

21. A method according to any one of claims 18 to 20, the method further comprising securing at least one end cap to a respective end of the channel(s), the end cap being configured as set forth claim 11, or wherein the end cap is a

connector as set forth in claim 12, the connector being located between so as to connect adjacent channels end-to-end.

22. A system for mounting a panel such as an acoustic panel, baffle or fin, the system comprising:

an elongate member that has a base configured to enable the elongate member to be mounted with respect to a structure, and opposing sidewalls extending from the base, each sidewall having a contoured external profile, the contoured external profiles of the sidewalls together defining outwardly projecting head portions separated by a neck portion, the sidewalls being spaced to define an opening to the elongate member; and

a cover configured to snap- or slide-fit with respect to the head portions of the sidewalls.

23. A system according to claim 22, wherein each sidewall comprises part of an in-use upper head portion and part of an in-use lower head portion separated by a part of the neck portion.

24. A system according to claim 23, wherein the cover is elongate and comprises a base and opposing sidewalls that project upwardly in use from opposite elongate sides of the base, each sidewall comprising an inwardly projecting flange that is configured to connect to the in-use lower head portion of its respective sidewall for retaining the cover at the elongate member, whereby the cover closes the opening to the elongate member.

25. A system according to claim 24, wherein each sidewall of the cover has a curvature that is configured to correspond with at least part of the contour of the outwardly projecting head portions of the elongate member.

26. A system according to any one of claims 22 to 25 wherein, when the cover is connected to the elongate member, the cover and the elongate member together form a generally oval shape in profile.

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27. A system according to any one of claims 22 to 26, wherein the base of the elongate member comprises an inwardly formed base recess, the base recess being defined by opposing and inwardly projecting lips.

28. A system according to any one of claims 22 to 27, wherein the sidewalls of the elongate member further comprise inwardly projecting flanges that extend within and/or along the opening to the elongate member, the spacing between distal ends of corresponding opposing flanges being optimised for receipt therebetween of an elongate edge of a panel.

29. A system according to claim 28, wherein at least some of the inwardly projecting flanges take the form of an array of teeth formed on internal recess walls of the sidewalls, the array of teeth for guiding insertion and retention of the panel edge.

30. A system according to any one of claims 22 to 29, wherein the elongate member is configured to house a light source.

31. A system according to any one of claims 22 to 30, wherein the cover is formed from a translucent material.

32. A system according to any one of claims 22 to 30, wherein an end cap is configured to be mounted to an end of the elongate member by push- or press-fitting, the end cap comprising a plate and a plurality of boss formations protruding from the plate, the boss formations having profiles corresponding to internal surfaces of the elongate member to thereby provide an interference fit when the end cap is mounted to the end of the elongate member.

33. A system according to claim 27, or any one of claims 28 to 32 when dependent on claim 27, the system further comprising at least one mounting fixture that is configured for mounting to the elongate member, wherein a portion of the mounting fixture is configured to locate within the base recess and be

retained therein by the lips, and another portion of the mounting fixture is able to locate outside of the base recess to project away from the base in-use.

34. An elongate member for use with the system as set forth in any one of claims 22 to 33, the elongate member being configured as set forth in any one of claims 22, 23 or 26 to 30.

35. An end cap for use with the system as set forth in any one of claims 22 to 33, the end cap being configured as set forth in claim 32.

36. A mounting fixture when used with the system as set forth in any one of claims 22 to 33, the mounting fixture being configured as set forth in claim 33.

37. A system for mounting a panel such as an acoustic panel, baffle or fin, the system comprising an elongate member in the form of a channel, the system further comprising a panel, a base of the channel being configured to enable it to be mounted with respect to a structure, with opposing sidewalls of the channel extending from the base to a distal end edge to define the channel, the sidewalls being spaced to define an opening to the channel, each sidewall further comprising internal formations projecting inwardly from a respective sidewall and extending for a length of the channel, the spacing between sidewalls being such that an elongate edge of the panel can be located within the opening to the channel to be retained between the internal formations.

38. A system according to claim 37, the system being otherwise as defined in any one of claims 1 to 12.

39. A system for mounting a panel with respect to a structure, the system comprising:

an elongate member having a base that is configured to enable the elongate member to be mounted with respect to a structure, with opposing sidewalls extending from the base, each sidewall having a contoured profile, the contoured profiles of the sidewalls together defining outwardly projecting head portions

separated by a neck portion, the sidewalls being spaced to define an opening to the elongate member;

a panel having a recess formed in an edge thereof, the recess being configured to generally correspond to an external profile of the member whereby an inner portion of the recess is enlarged to receive a head portion of the elongate member, and whereby an outer portion of the recess opens out of the panel edge and is configured to receive the neck portion of the elongate member wherein, when the member is located in the panel recess, it extends transverse to the panel and retains the panel to the member.

40. A system according to claim 39, further comprising one or more covers, each cover being configured to snap- or slide-fit with respect to the head portions of the sidewalls, each cover being sized to locate adjacent to at least one panel when the panel is retained at the elongate member.

41. A system according to claim 40, wherein two or more panels are retained at the elongate member, and wherein two or more covers are mounted to the elongate member, the covers being mounted to locate adjacent to and between the two or more panels, and optionally or as required, the covers being mounted to locate adjacent to a panel and extending to an end of the elongate member.

42. A system according to any one of claims 39 to 41, the system further comprising one or two end caps, each for a respective end of the elongate member, each end cap being as defined in claim 32.

43. A system according to any one of claims 39 to 42, the system further comprising a mounting fixture that is configured for mounting the elongate member with respect to the structure, the mounting fixture being as defined in claim 33.

44. A system according to any one of claims 39 to 43, the system being otherwise as defined in any one of claims 1 to 12.

45. A system for mounting a panel with respect to a structure, the system comprising:

an elongate member having a base that is configured to enable the elongate member to be mounted with respect to a structure, with opposing sidewalls extending from the base;

one or more clips provided as discrete lengths, each clip being configured to mount to the sidewalls of the elongate member;

a coupling member supported by the clip, the coupling member comprising a base, and opposing sidewalls that extend from the base to define a recess therebetween; and

at least one panel having an elongate edge that can be located in the recess defined between the opposing sidewalls of the coupling member to be retained thereby.

46. A system according to claim 45, wherein each clip is configured to snap- or slide-fit with respect to the sidewalls.

47. A system according to claim 45 or 46, wherein each clip is further configured to interact with a coupling fixture that is configured to enable attachment of the clip to the coupling member.

48. A system according to any one of claims 45 to 47, wherein the coupling fixture comprises a captive insert that is able to be secured to the clip, the coupling fixture further comprising a lug located at an end of the captive insert, the lug being configured for being coupled to the coupling member.

49. A system according to claim 48, wherein the lug comprises an enlarged head having one or more grooves formed therein, and wherein the base of the coupling member comprises opposing spaced legs that each comprise an inwardly projecting distal lip that is configured to be received in a groove of the lug for

coupling the coupling fixture to the coupling member, such as by a sliding of the lug into a recess defined between the opposing spaced legs.

50. A system according to claims 48 or 49, wherein a base of the clip comprises an aperture therethrough, the aperture for receiving therein the captive insert in a manner that attaches the coupling fixture to the clip.

51. A system as claimed in claim 50, wherein a bush extends from the aperture of the clip, and wherein the captive insert extends into the bush when the coupling fixture is attached to the clip.

52. A system as claimed in claim 50 or 51, wherein the captive insert is attached in a rotatable manner to the clip such that the coupling member is able to be rotated relative to the clip.

53. A system according to any one of claims 36 to 52, wherein the sidewalls of the coupling member are spaced to define an opening to the coupling member, each sidewall further comprising internal formations projecting inwardly from a respective sidewall and extending for a length of the member, the spacing between sidewalls being such that an elongate edge of the panel can be slid laterally through and/or push-fit into the opening to be retained by the internal formations.

54. A system according to any one of claims 45 to 53, wherein the opposing sidewalls of the elongate member comprise distal ends that are spaced to define an opening therebetween, and wherein each clip further comprises spaced apart internally projecting catches that are configured to extend into the opening and to engage with, such as by snap-engaging with, the sidewall distal ends defined at the opening to the elongate member.

55. A system according to any one of claims 45 to 54, wherein each sidewall has a contoured profile, the contoured profiles of the sidewalls together defining outwardly projecting head portions that are separated by a neck portion.

56. A system according to any one of claims 45 to 55, wherein the elongate edge of the at least one panel is sized to be slid laterally through and/or push-fit between the opposing sidewalls of the coupling member to be retained therebetween.

57. A system according to any one of claims 45 to 56, the system further comprising one or two end caps, each end cap being as defined in claim 32.

58. A system according to any one of claims 45 to 57, the system further comprising a mounting fixture configured for mounting the elongate member with respect to the structure, the mounting fixture being as defined in claim 33.

59. A system according to any one of claims 45 to 58, wherein the elongate member is otherwise as defined in any one of claims 22 to 30.

60. A system according to any one of claims 45 to 59, the system further comprising at least one cover as defined in any one of claims 22 to 31.

61. A system for mounting a panel with respect to a structure, the system comprising:

an elongate member having a base that is configured to enable the elongate member to be mounted with respect to a structure, with opposing sidewalls extending from the base;

one or more clips provided as discrete lengths, each clip configured to mount to the sidewalls of the elongate member;

a connection member that is configured to connect to and be supported by the clip; and

at least one panel that is able to be connected to the connection member to be supported thereby when the clip is mounted to the elongate member.

62. A system according to claim 61, wherein the clip is configured to receive therein a captive insert that extends from the connection member for attaching the connection member to the clip.

63. A system according to claim 62, wherein the captive insert comprises a threaded rod that is connected to the connection member, the threaded rod extending from the connection member to be received in a correspondingly internally threaded boss of the clip.

64. A system according to any one of claims 61 to 63, wherein each elongate member sidewall has a contoured profile, the contoured profiles of the member sidewalls together defining outwardly projecting head portions separated by a neck portion, the sidewalls being spaced to define an opening to the elongate member.

65. A system according to claim 64, wherein sidewalls of each clip are configured to snap- or slide-fit with respect to the head portions of the sidewalls of the elongate member.

66. A system according to any one of claims 61 to 65, wherein the connection member is a cylindrical member such as a bushing.

67. A system according to claim 66, wherein the bushing is solid, and wherein the captive insert extends from the bushing at one end, and a connector piece extends from the bushing at the other end, the connector piece being configured for being connected to and supporting the panel.

68. A system according to any one of claims 61 to 67, wherein the clip is otherwise as defined in any one of claim 45 to 48.

69. A system according to any one of claims 61 to 68, the system further comprising one or two end caps, each end cap being as defined in claim 32.

70. A system according to any one of claims 61 to 69, the system further comprising a mounting fixture configured for mounting the elongate member with respect to the structure, the mounting fixture being as defined in claim 33.

71. A system according to any one of claims 61 to 70, wherein the elongate member is otherwise as defined in any one of claim 22 to 30.

72. A system according to any one of claims 61 to 71, further comprising at least one cover as defined in any one of claim 22 to 31.

73. A clip for mounting to an elongate member as defined in any one of claims 22 to 30, the clip being provided as a discrete length and configured to snap- or slide-fit with respect to outwardly projecting head portions of opposing sidewalls of the elongate member, the clip being further configured to interact with a coupling fixture to enable attachment of further components.

74. A clip according to claim 73, wherein the coupling fixture comprises a captive insert for attachment to the clip, the captive insert being provided with a lug for mounting the further components to the clip.

75. A clip according to claims 73 or 74, wherein the further components include the coupling member as defined in any one of claims 45 to 53 or the connection member as defined in any one of claims 61 to 67.

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Figure 1A

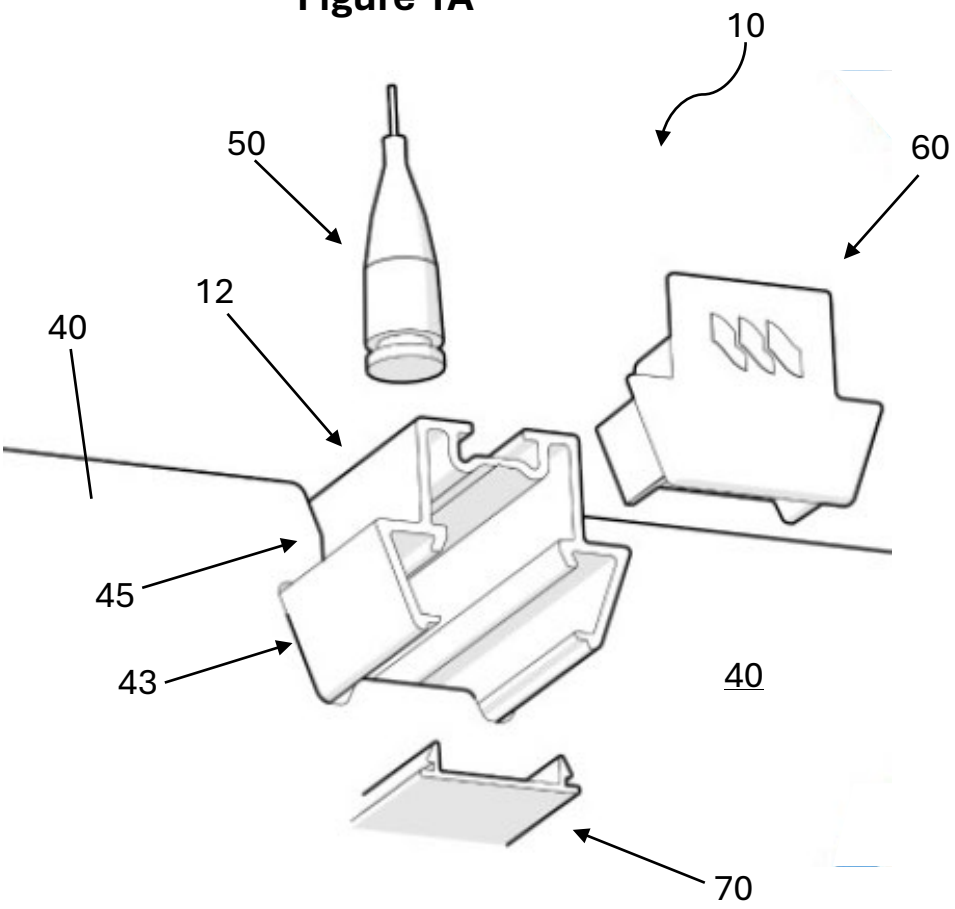

Figure 1B

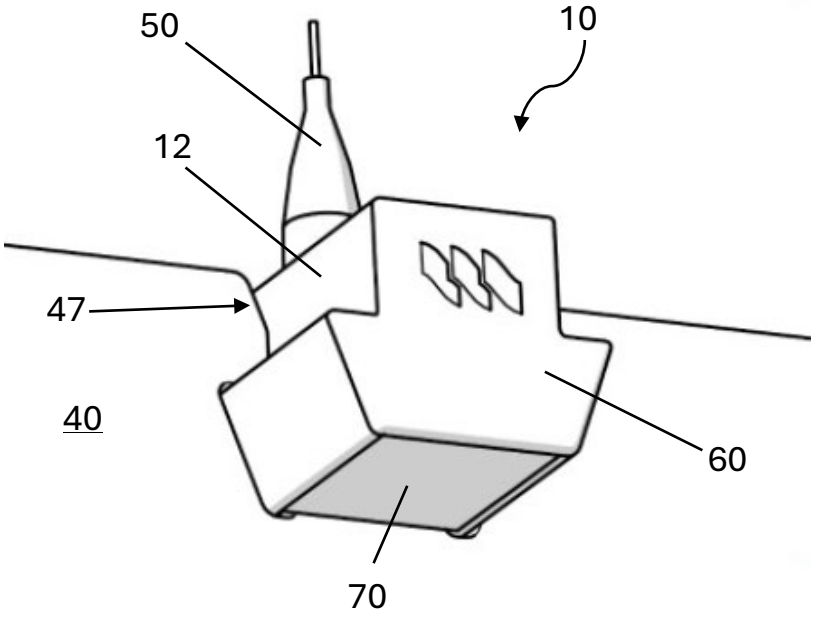

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Figure 2

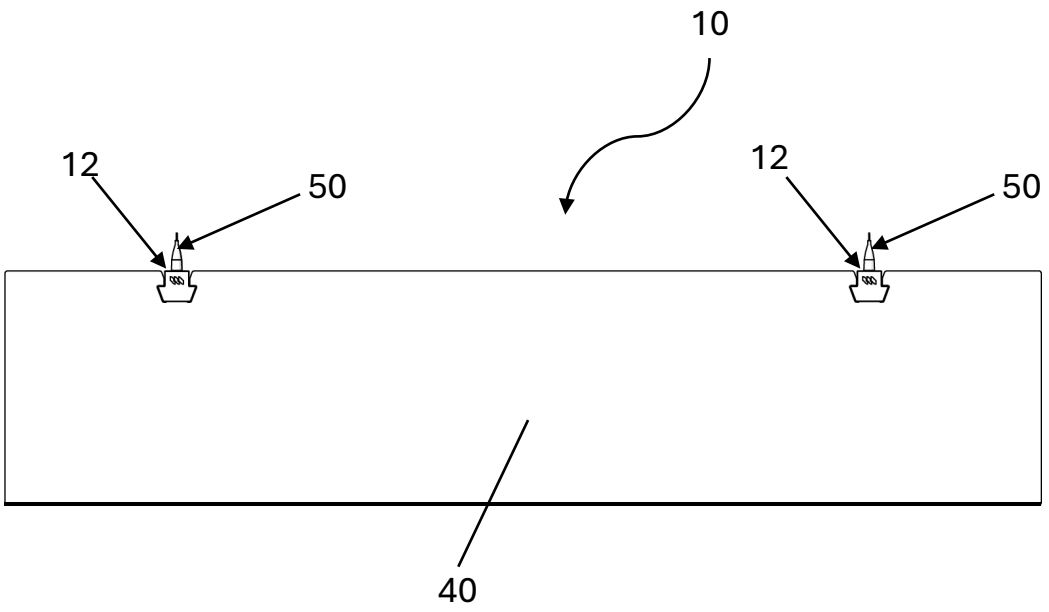

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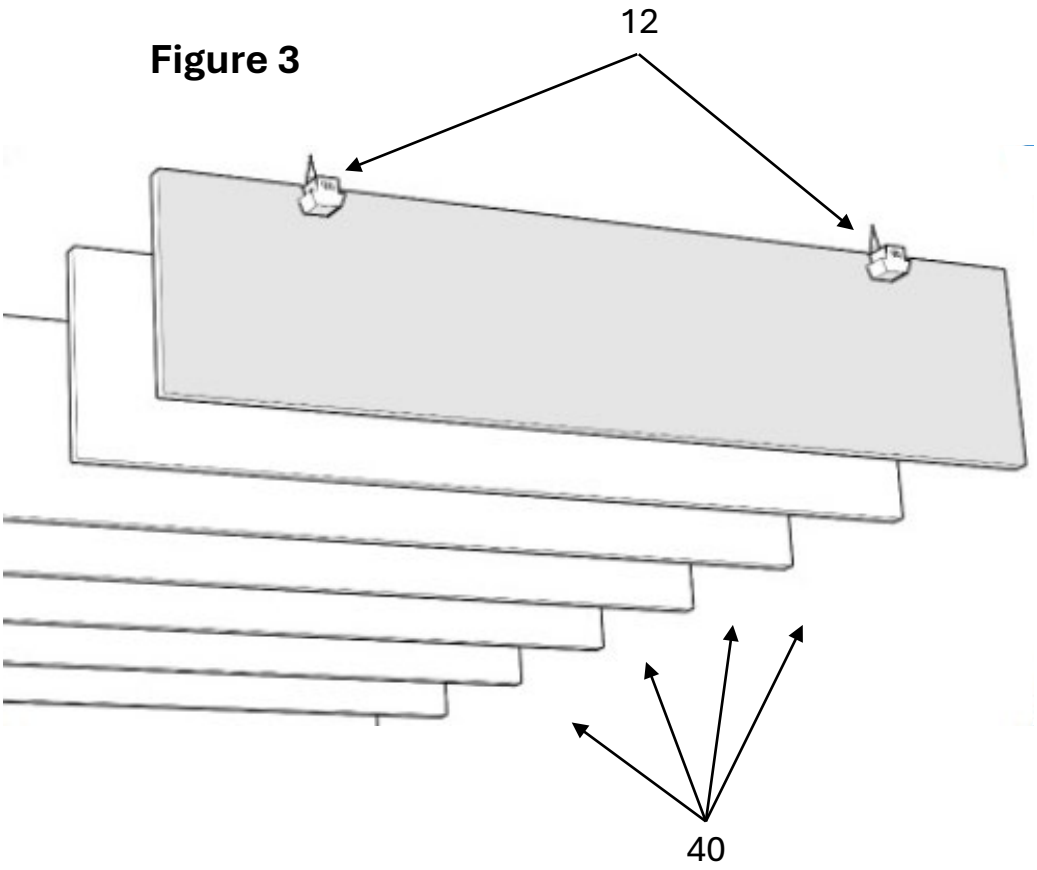
Figure 3



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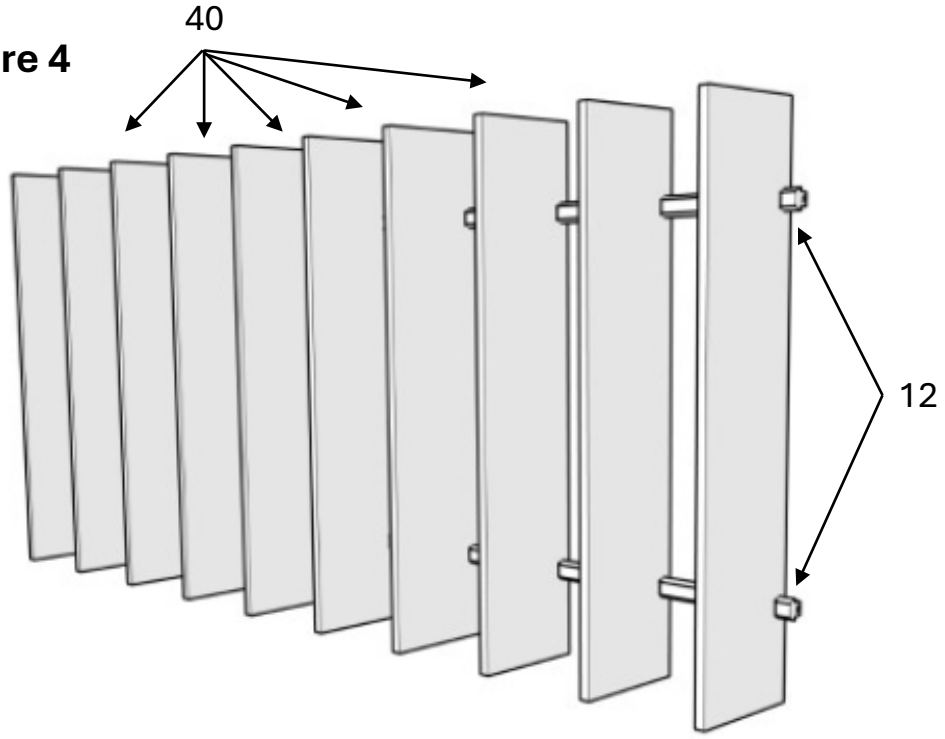

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Figure 5

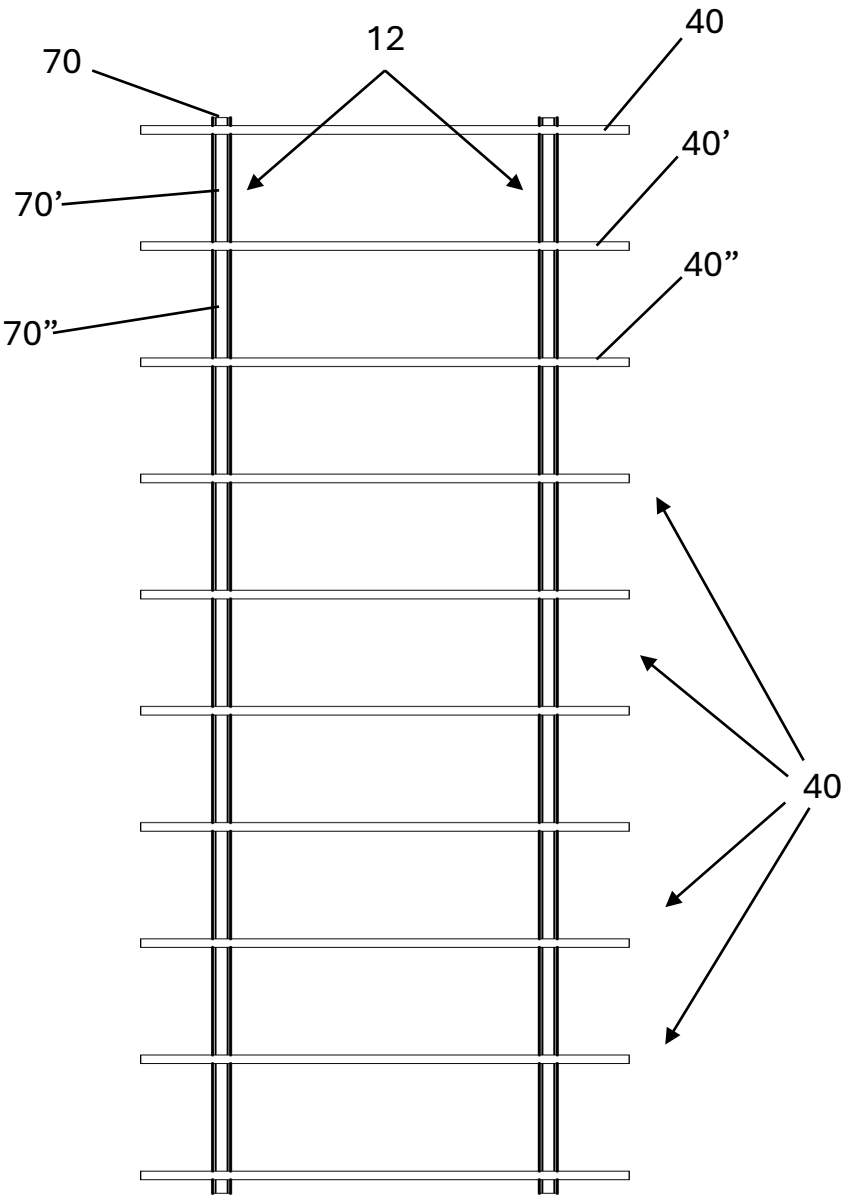

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Figure 6

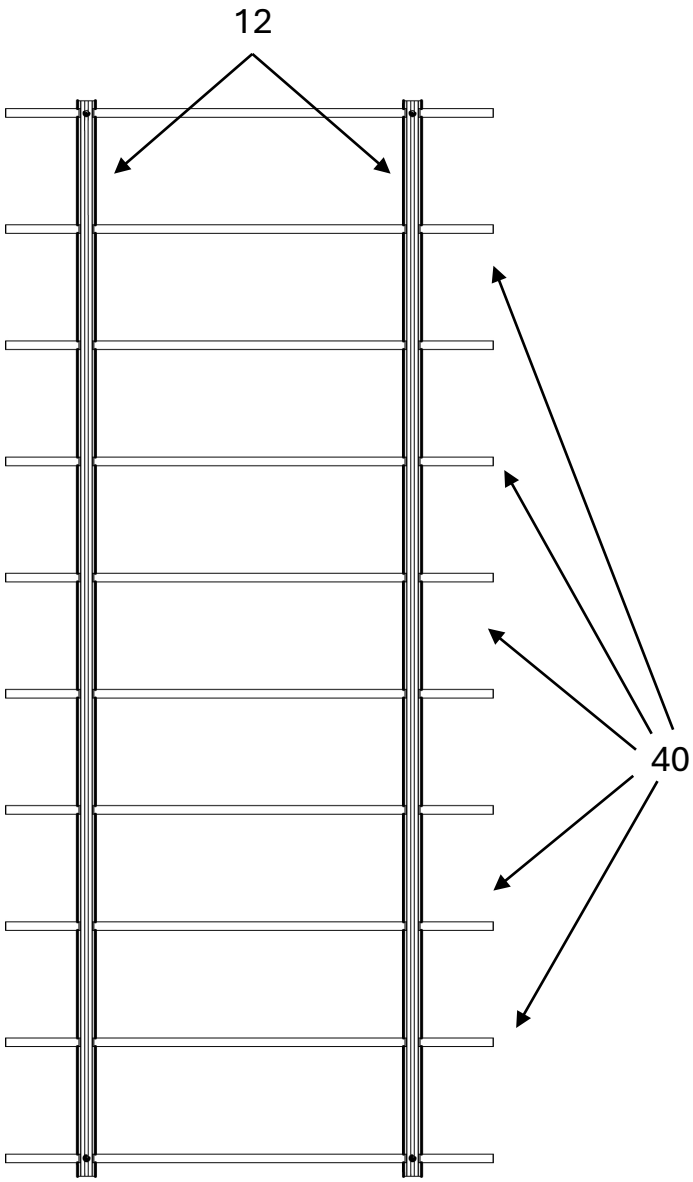

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Figure 7

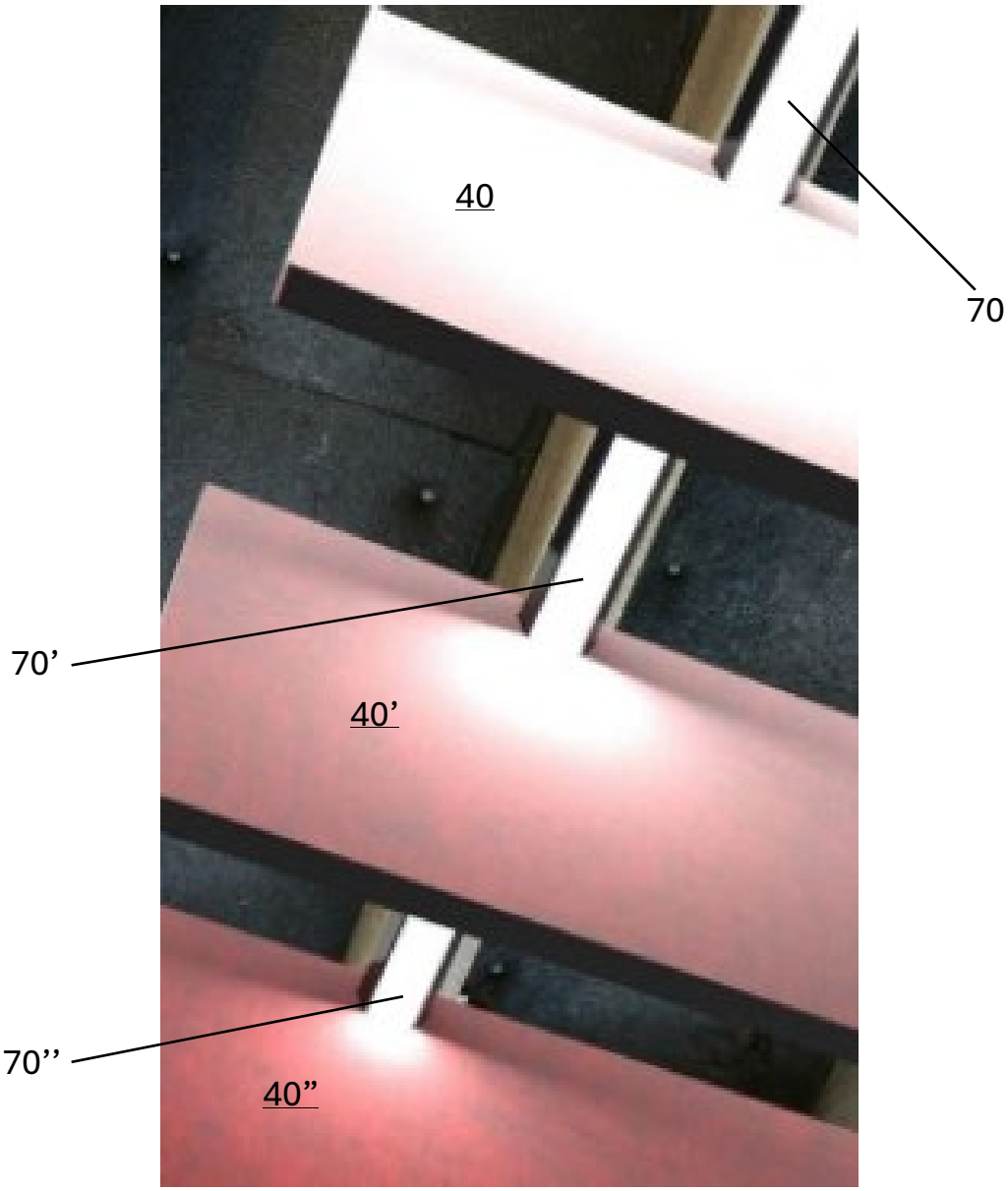

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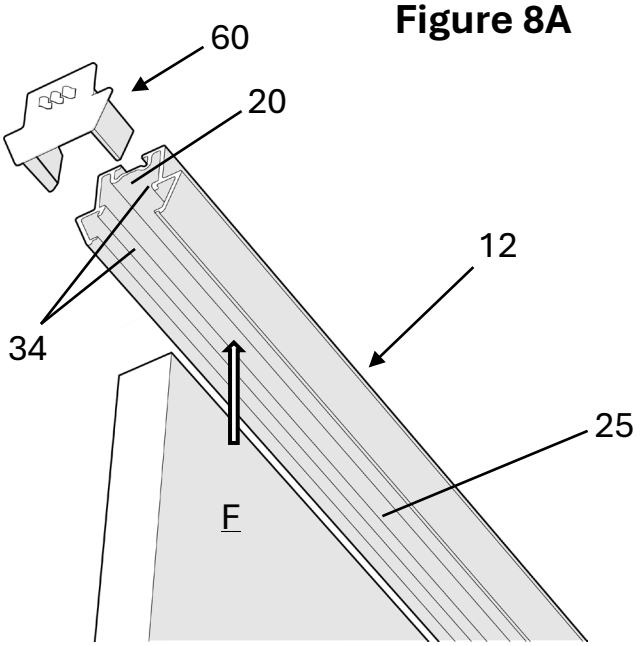
Figure 8A



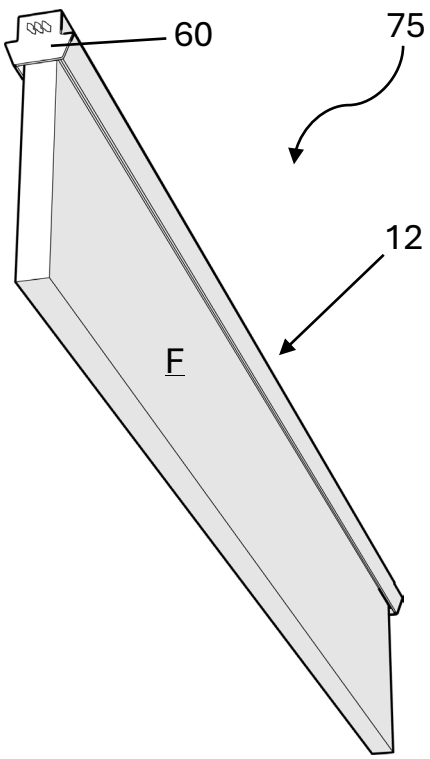


Figure 8B

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Figure 8C

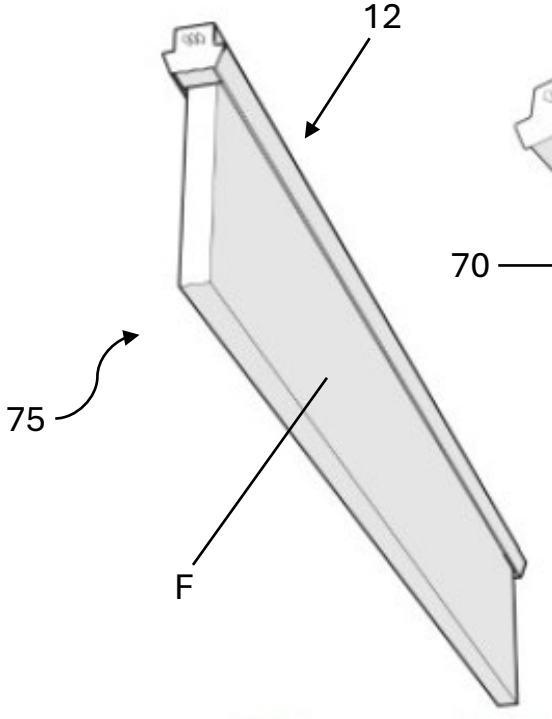
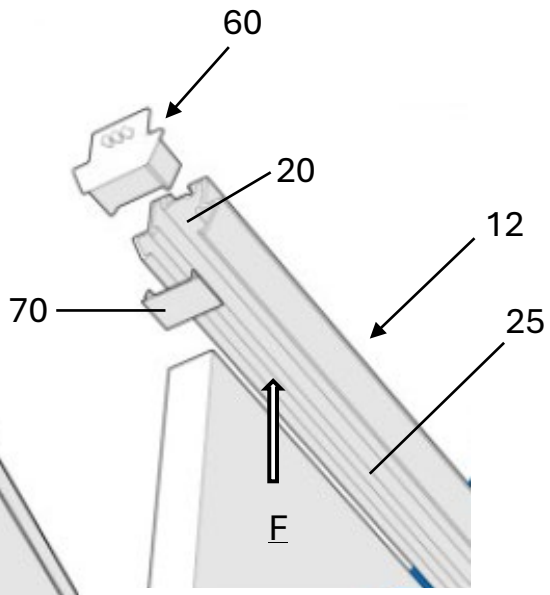


Figure 8D



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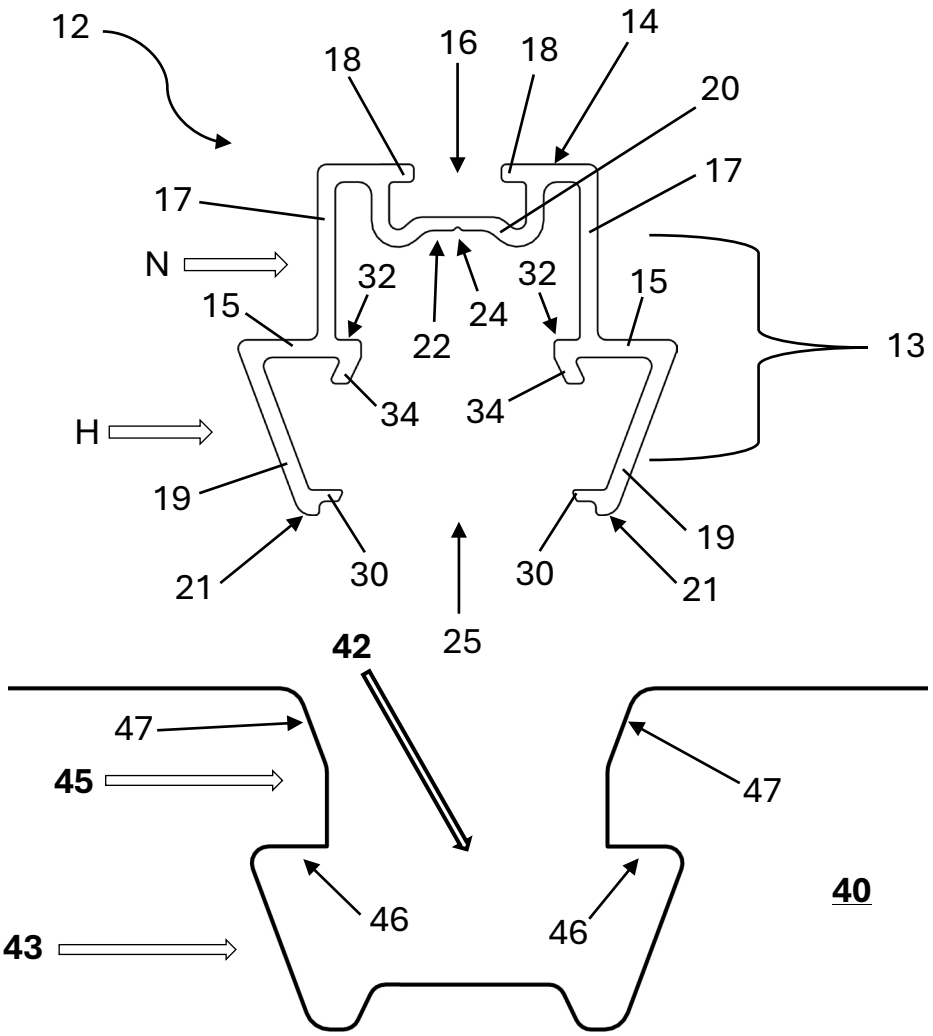

Figure 10

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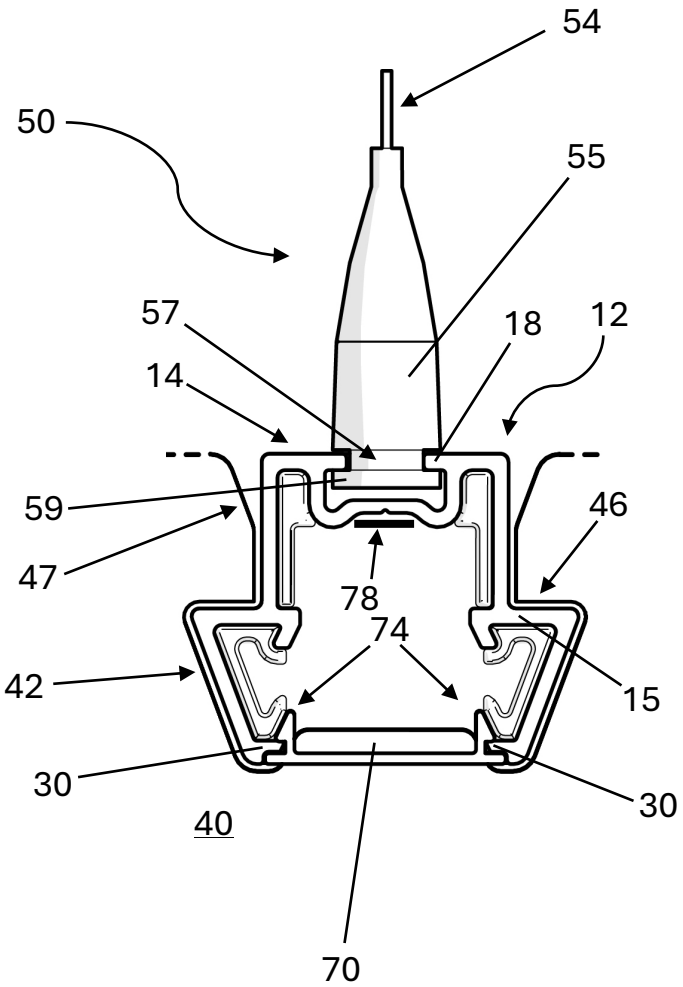
Figure 11



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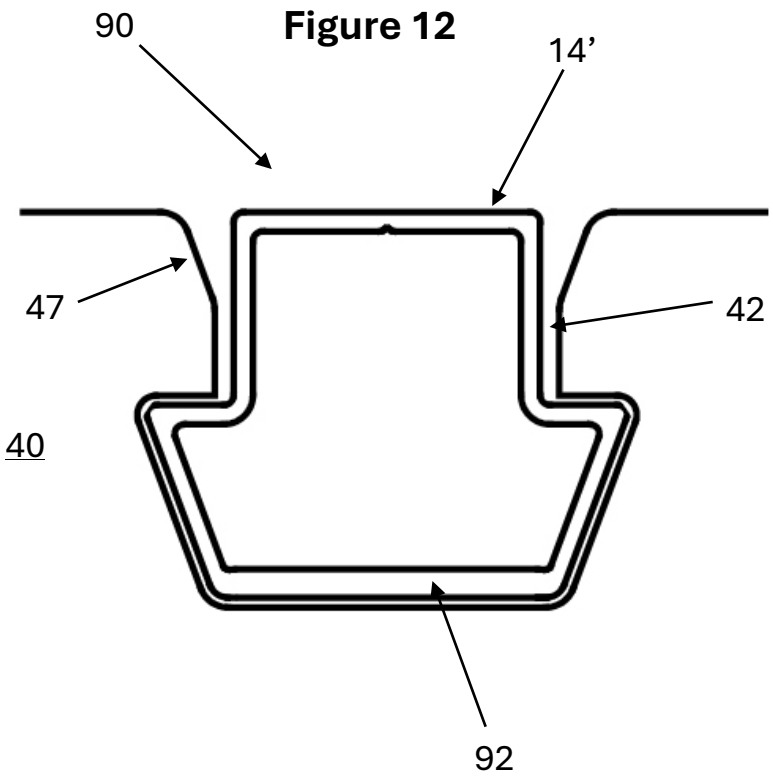

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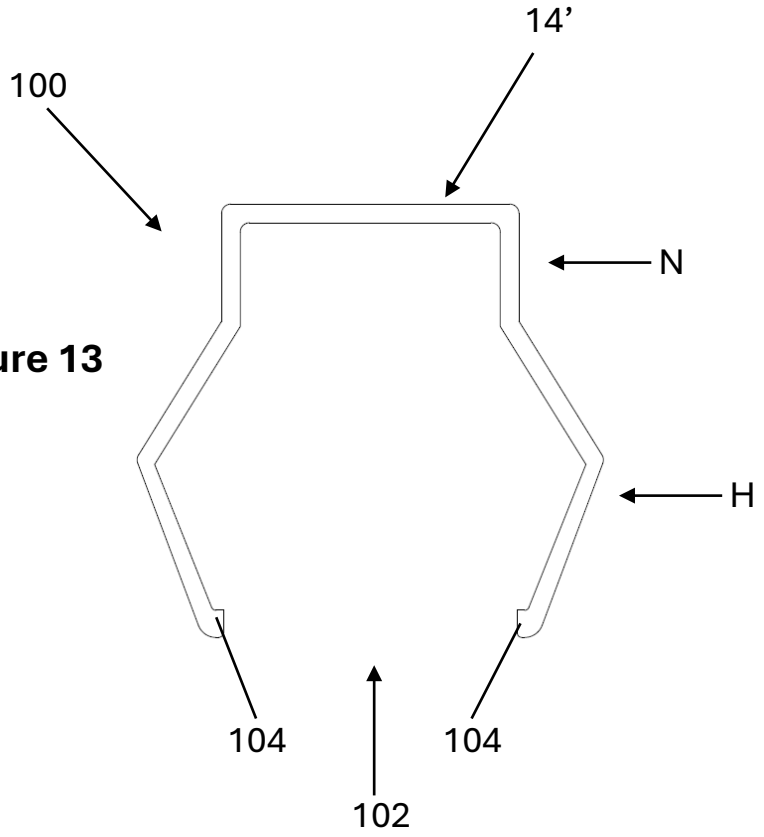

Figure 13

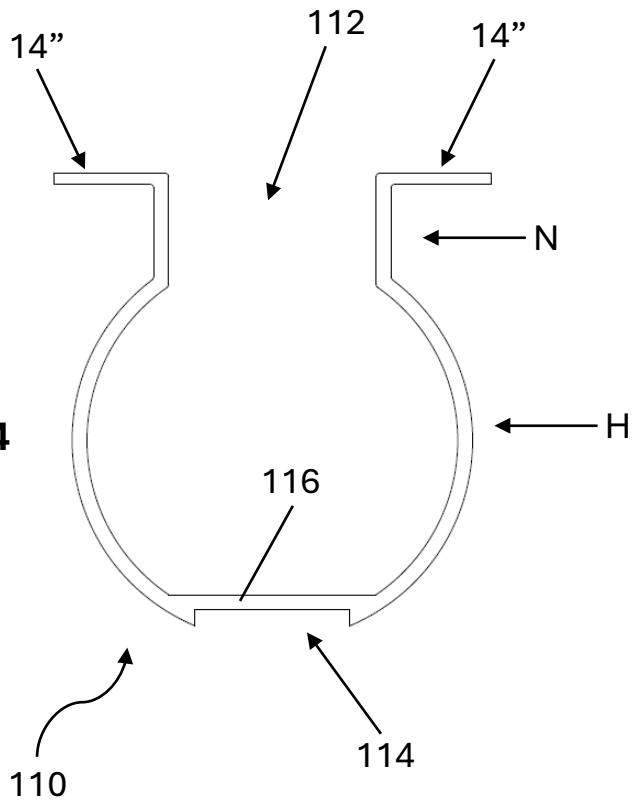

Figure 14

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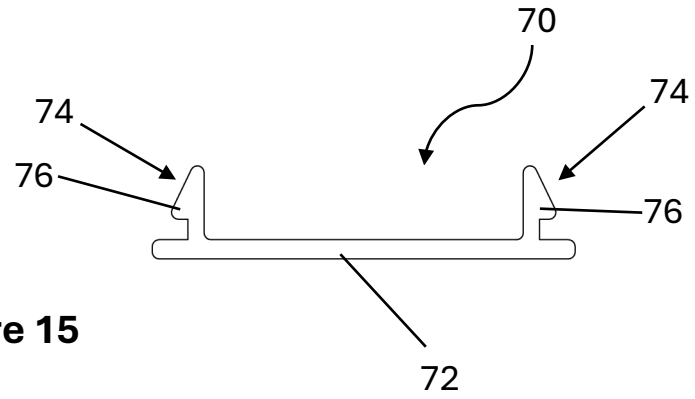
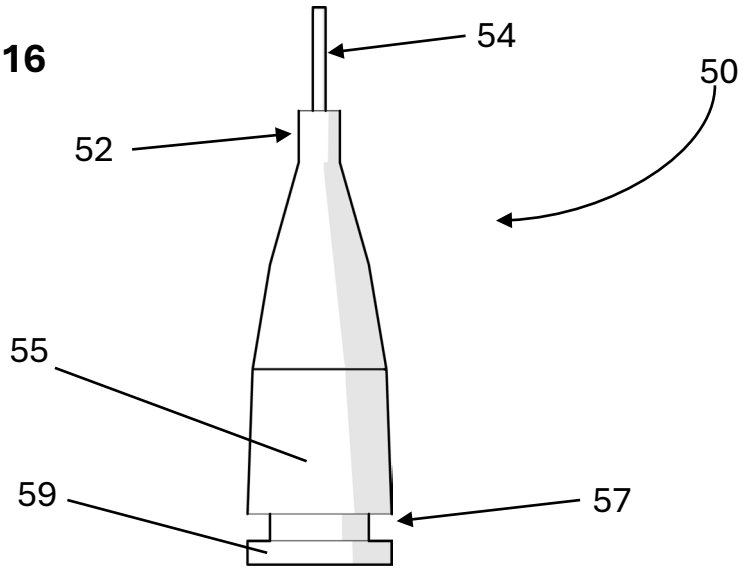


Figure 15

Figure 16



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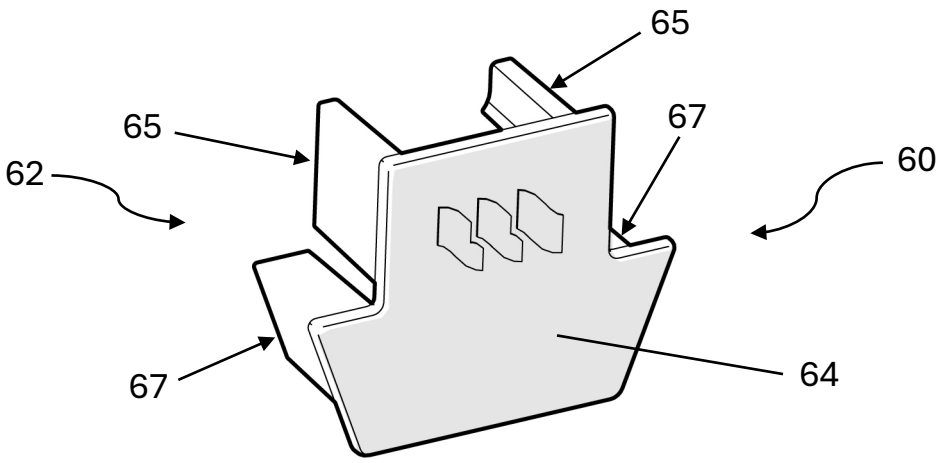

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Figure 18A

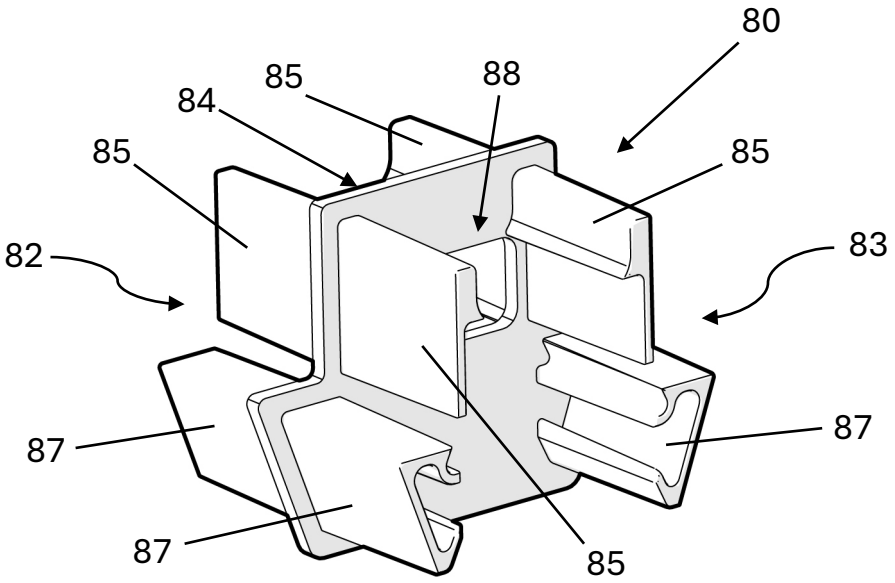
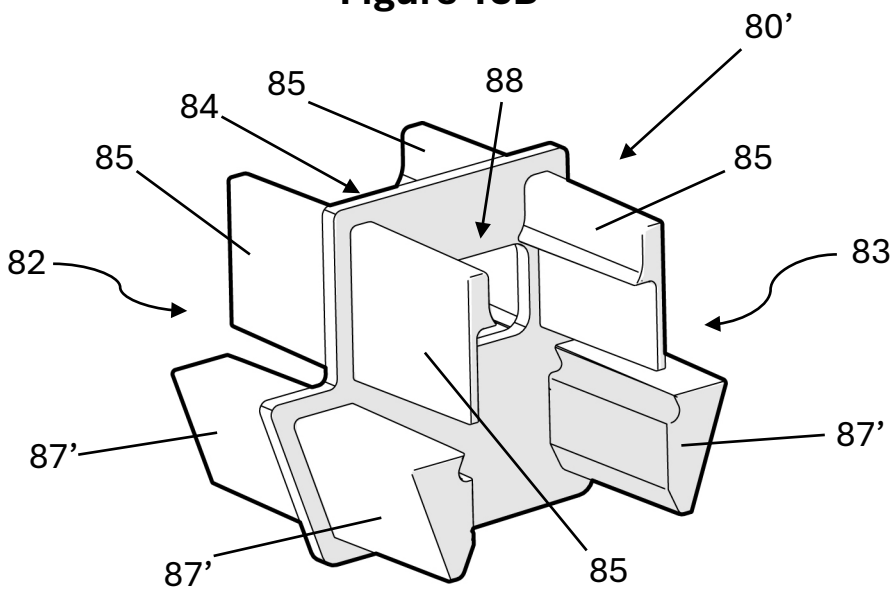


Figure 18B



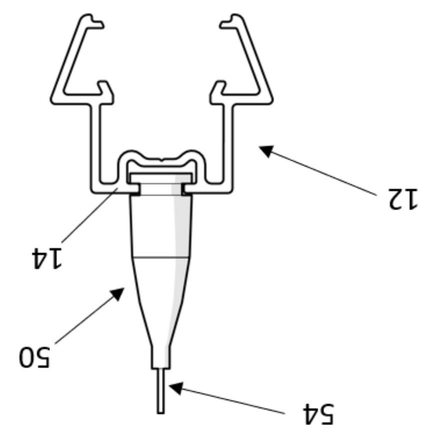


Figure 19A

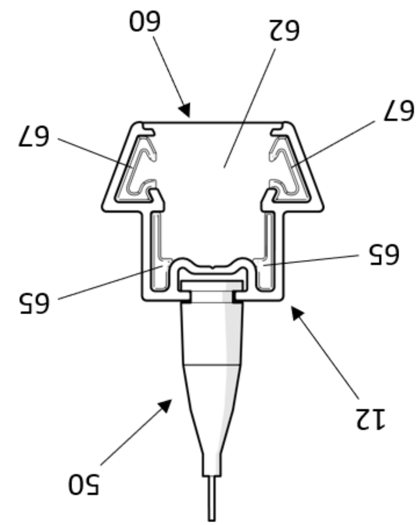


Figure 19B

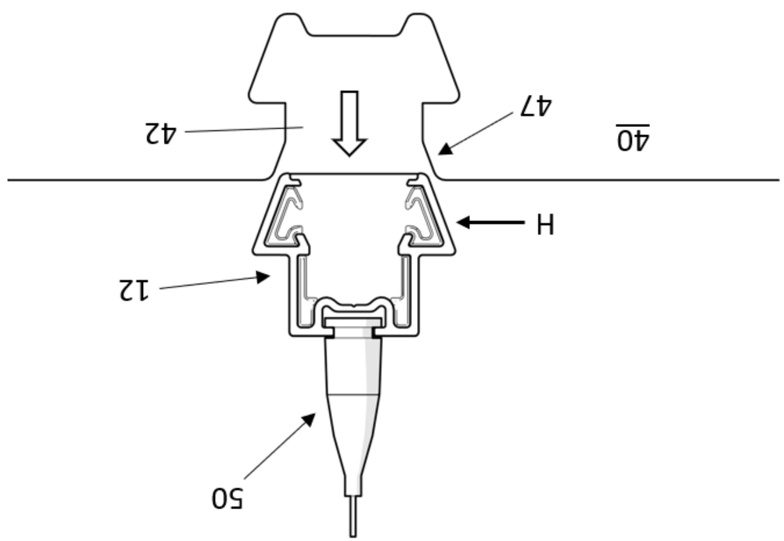


Figure 19C

Figure 19D

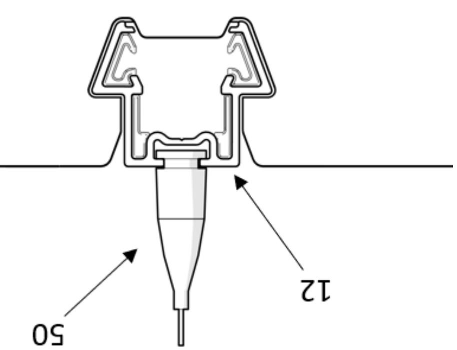


Figure 19E

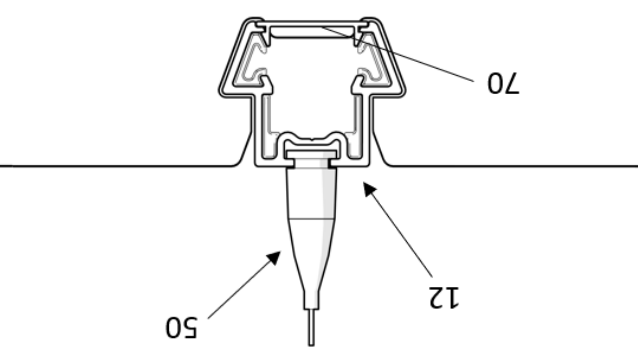


Figure 19F

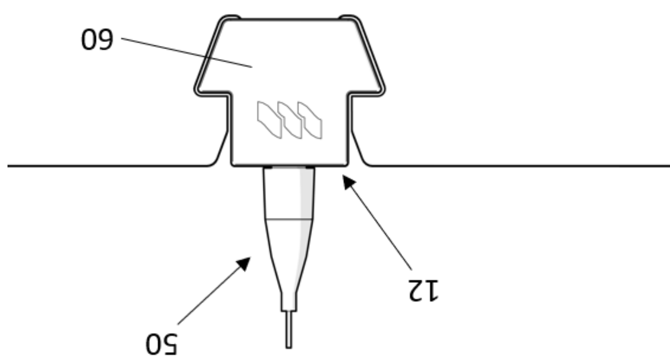


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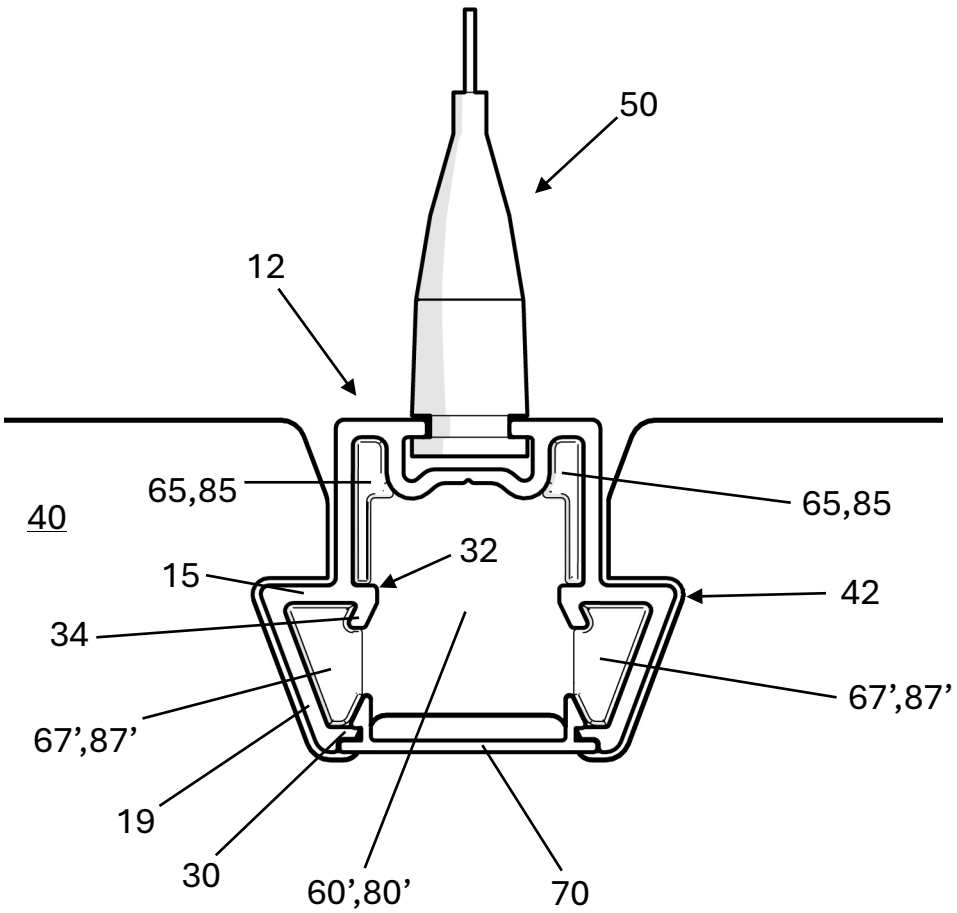
Figure 20



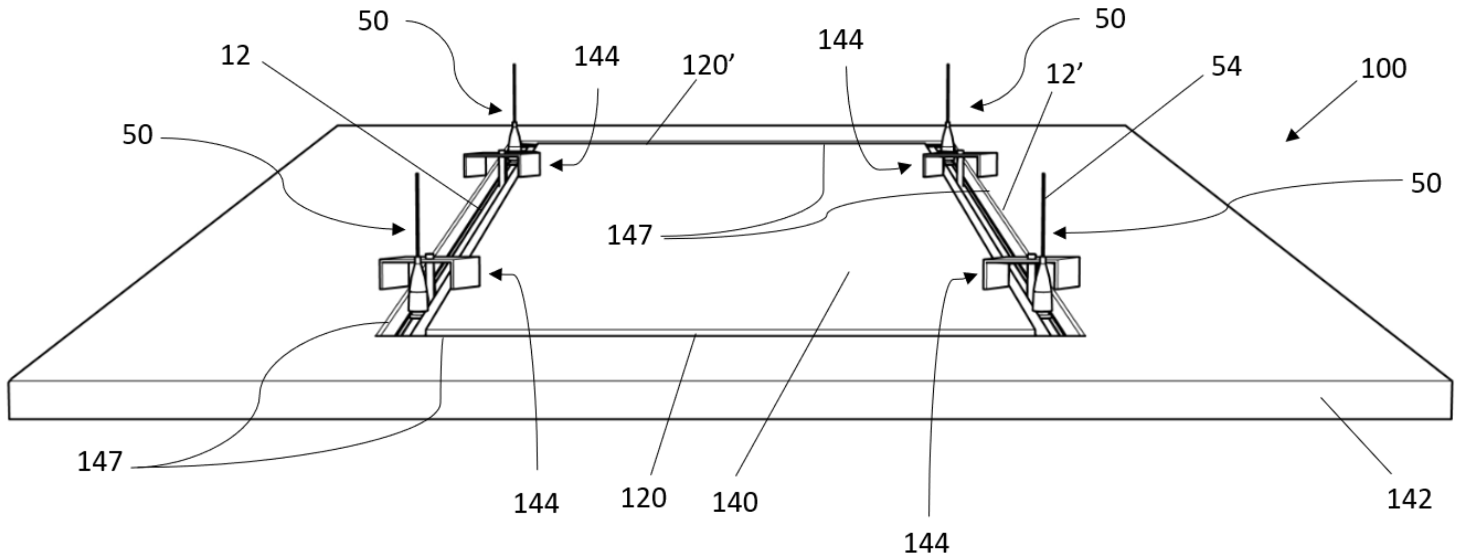


Figure 21

Figure 22

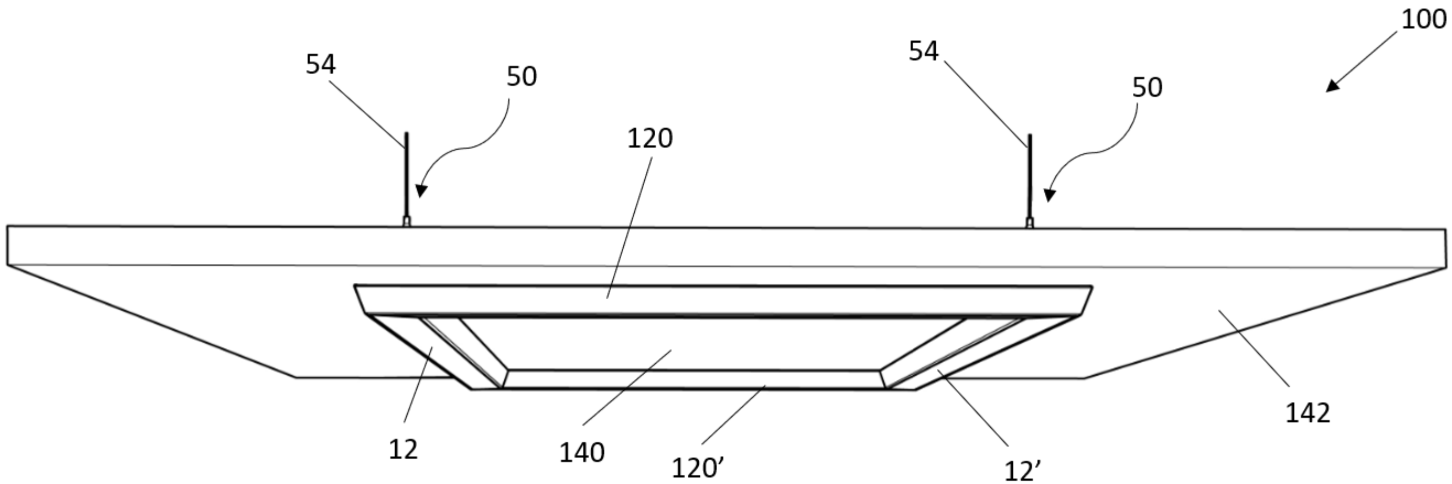


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Figure 23

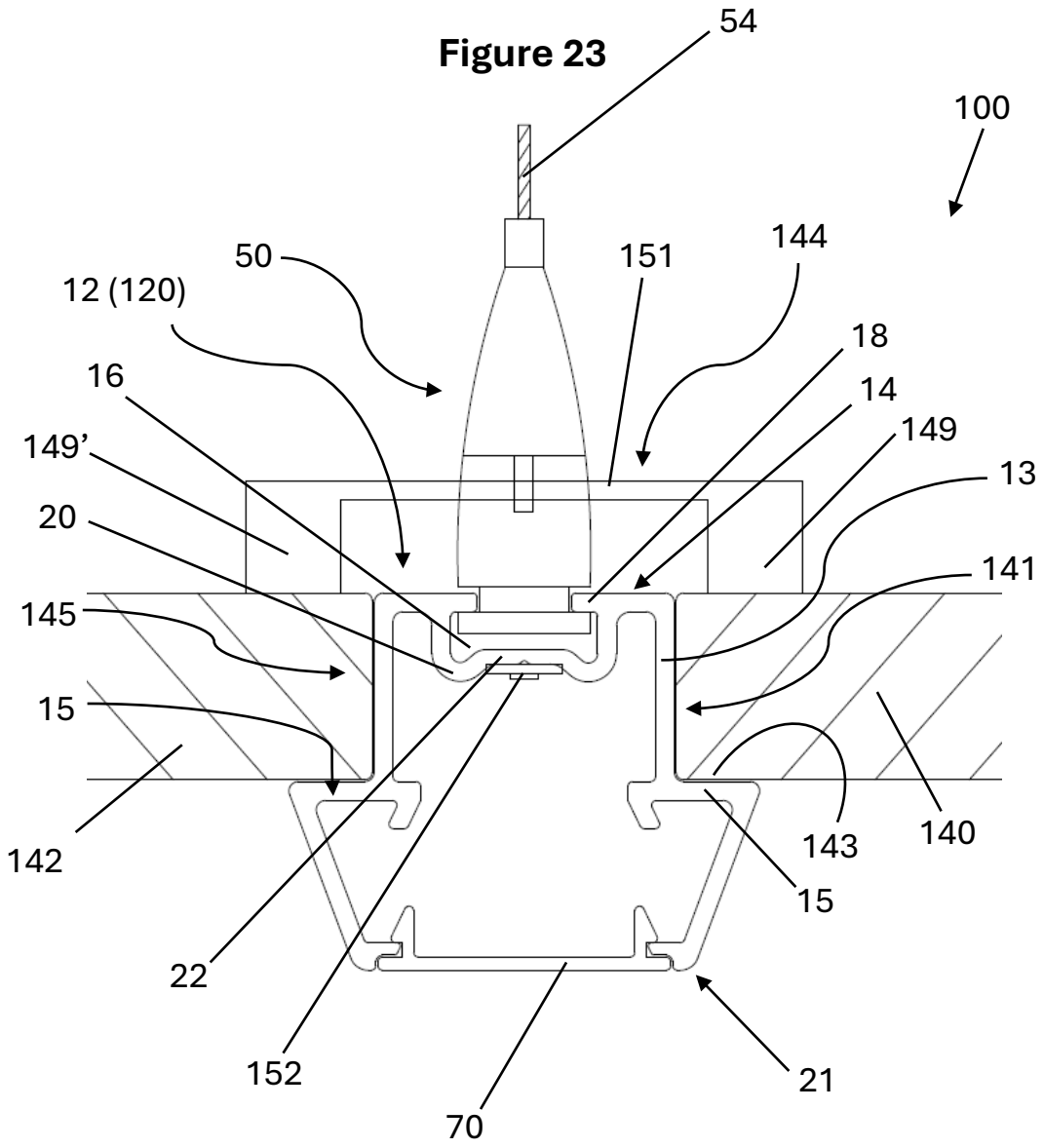
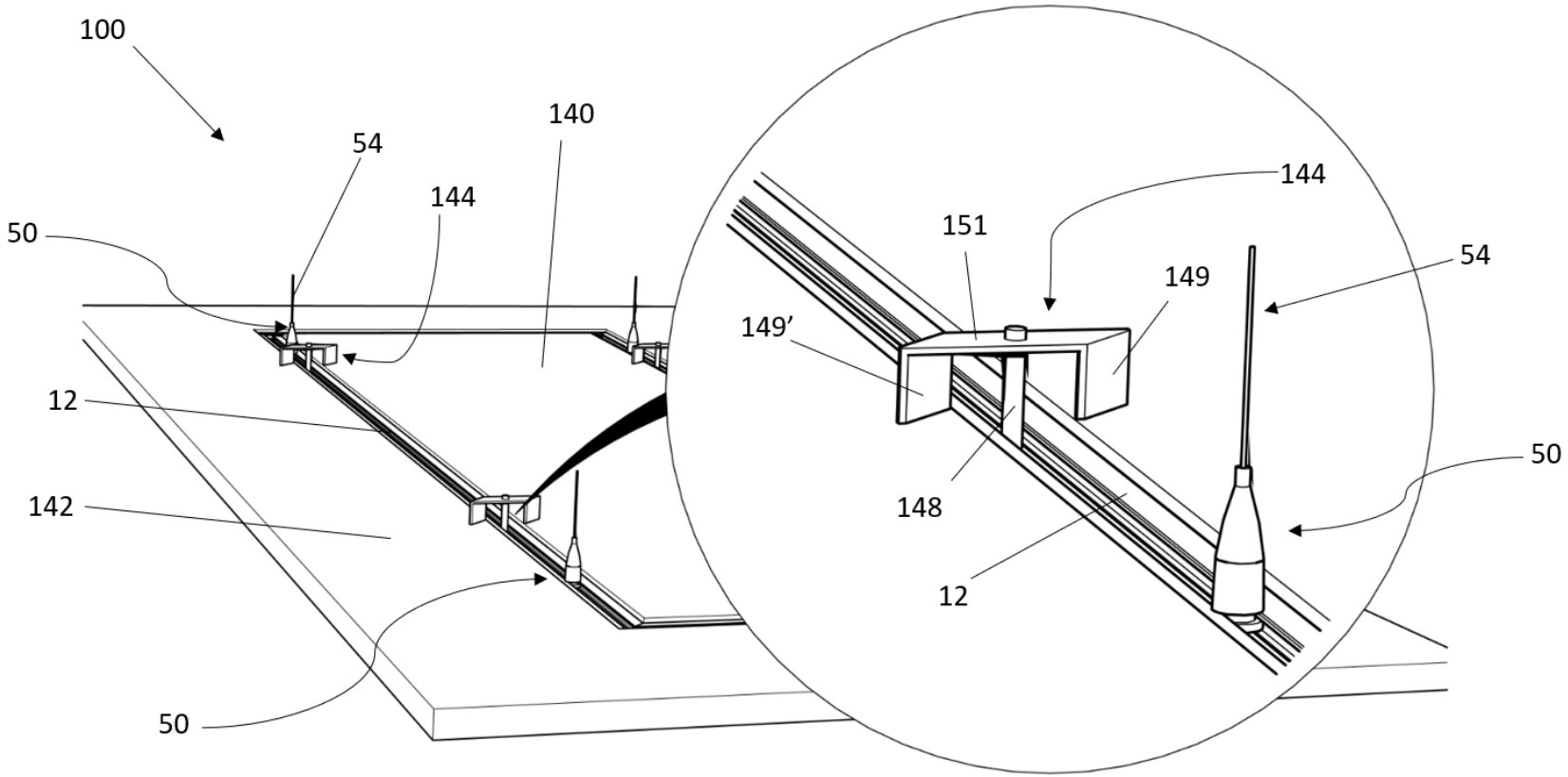


Figure 24



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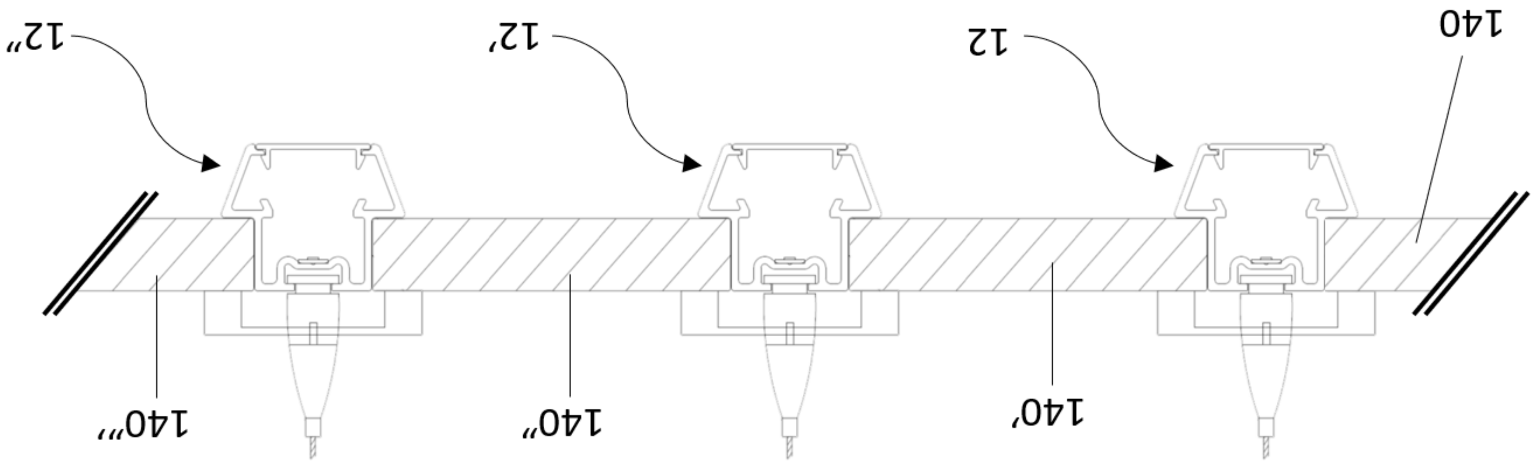

Figure 25

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Figure 26A

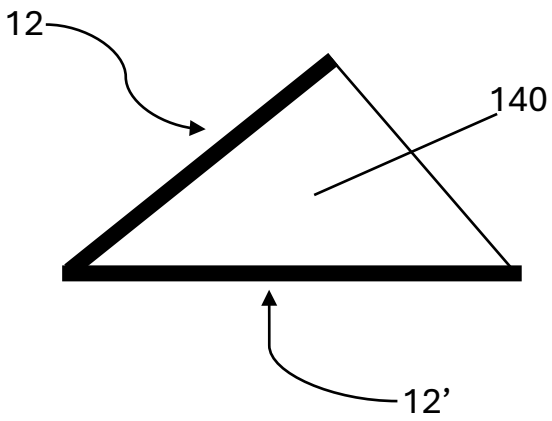
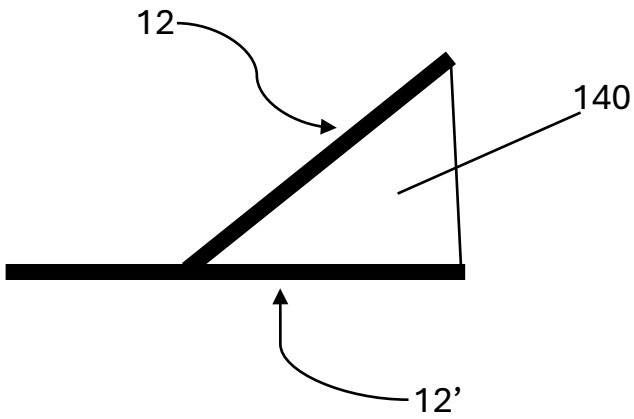


Figure 26B



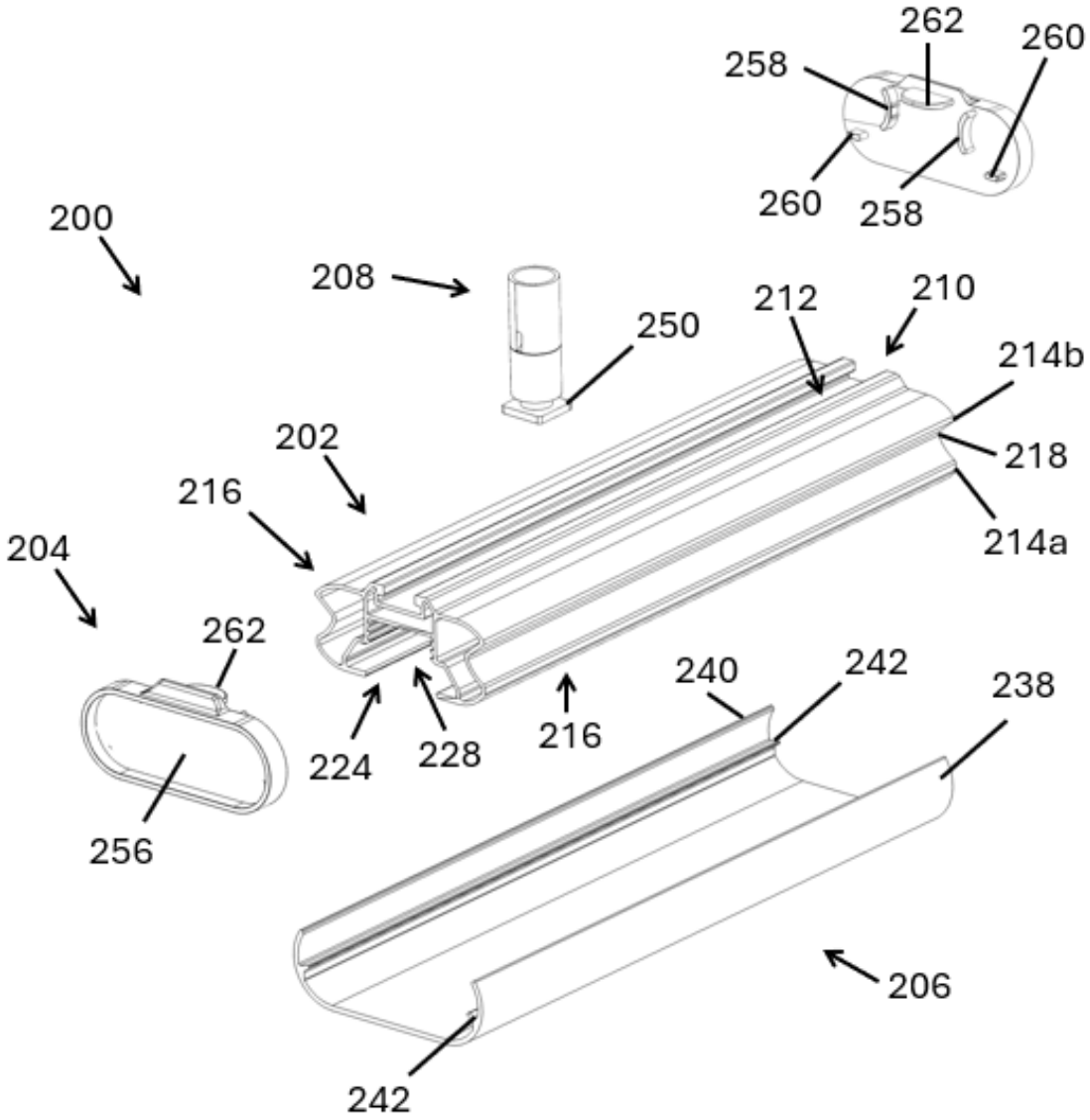


Figure 27

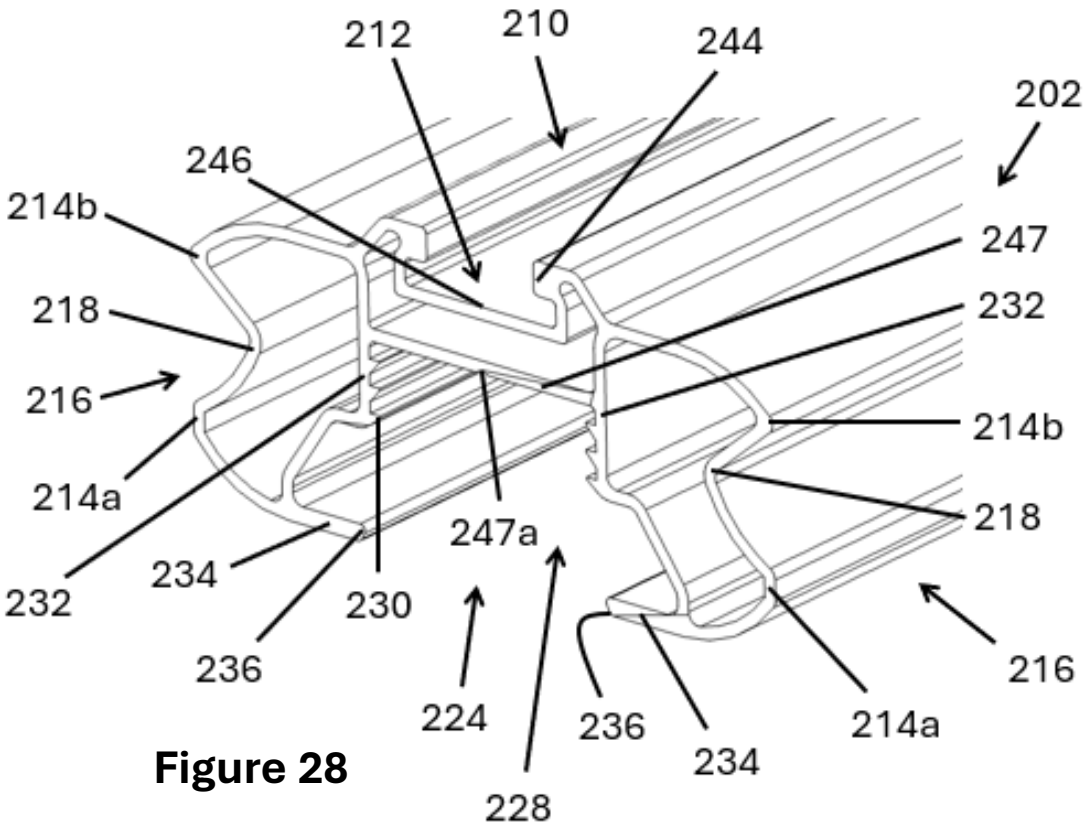


Figure 28

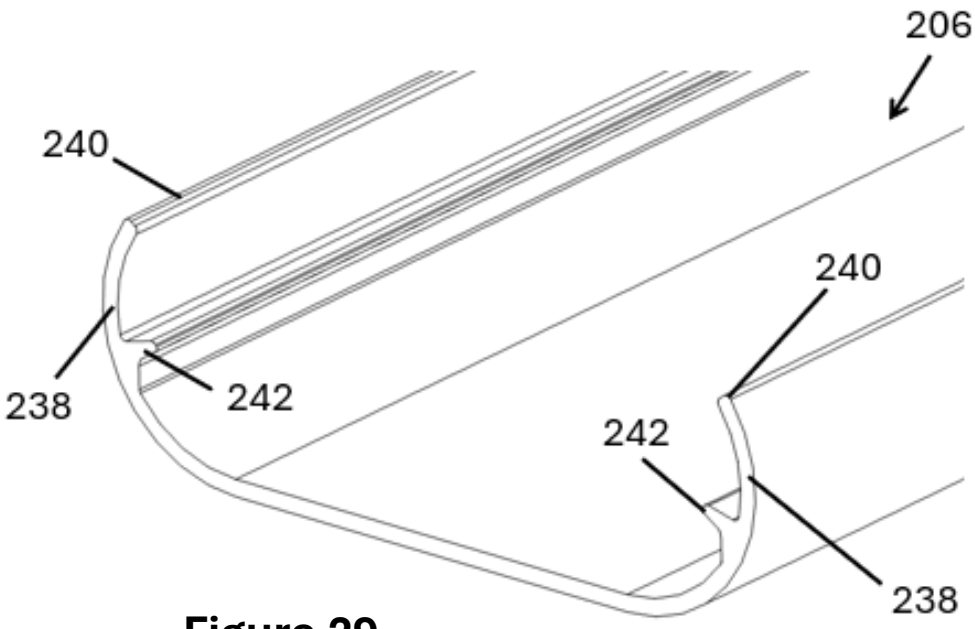


Figure 29

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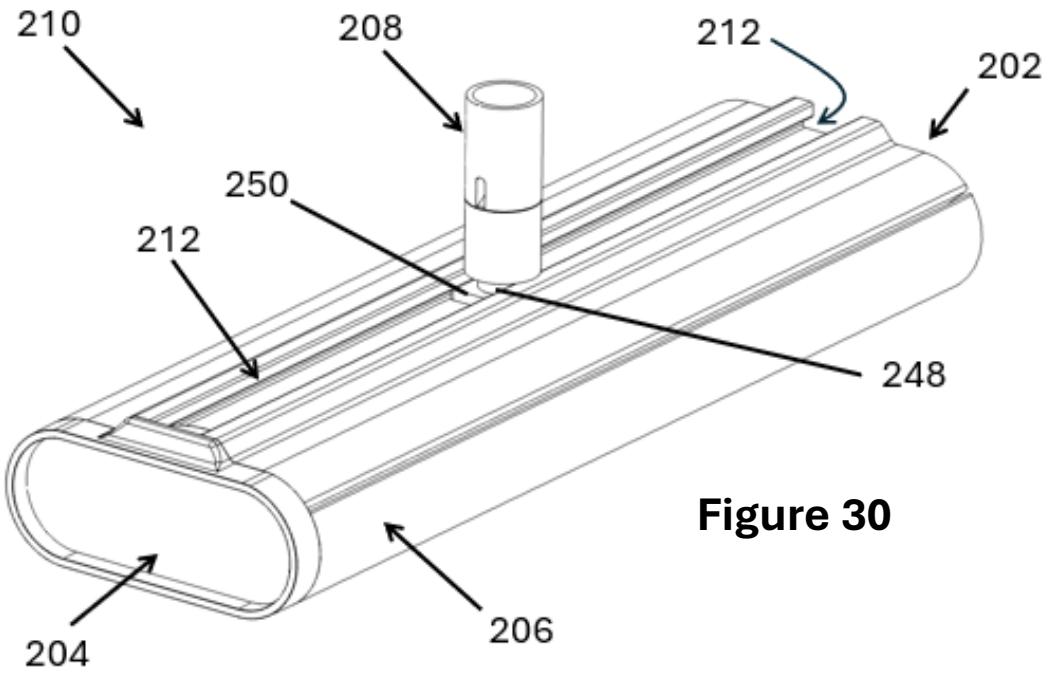

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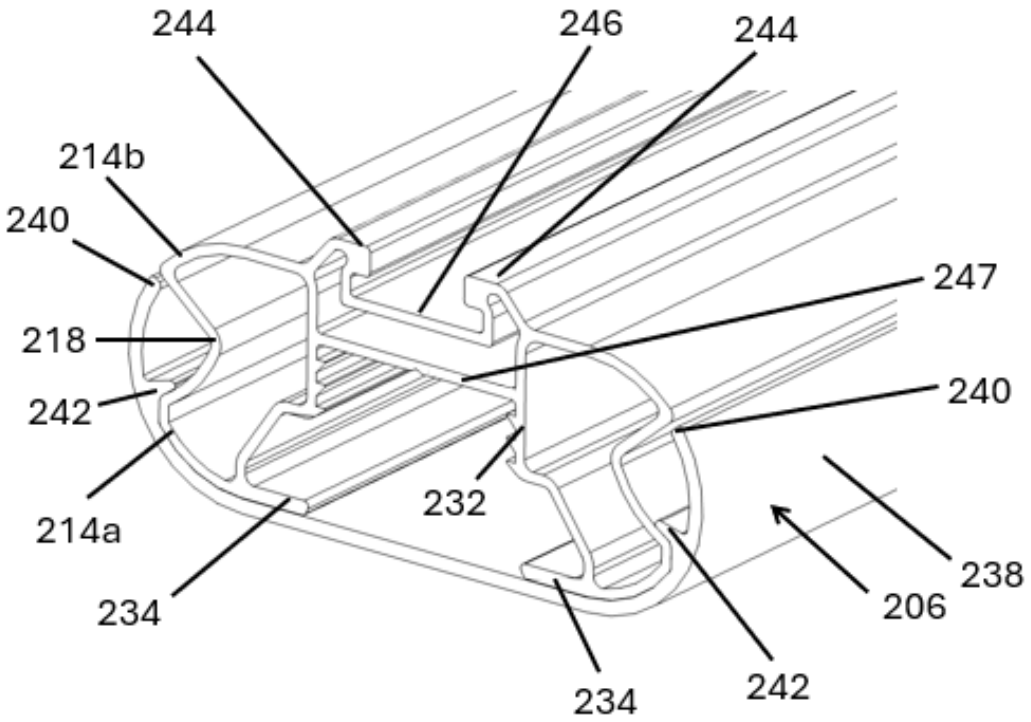

Figure 31

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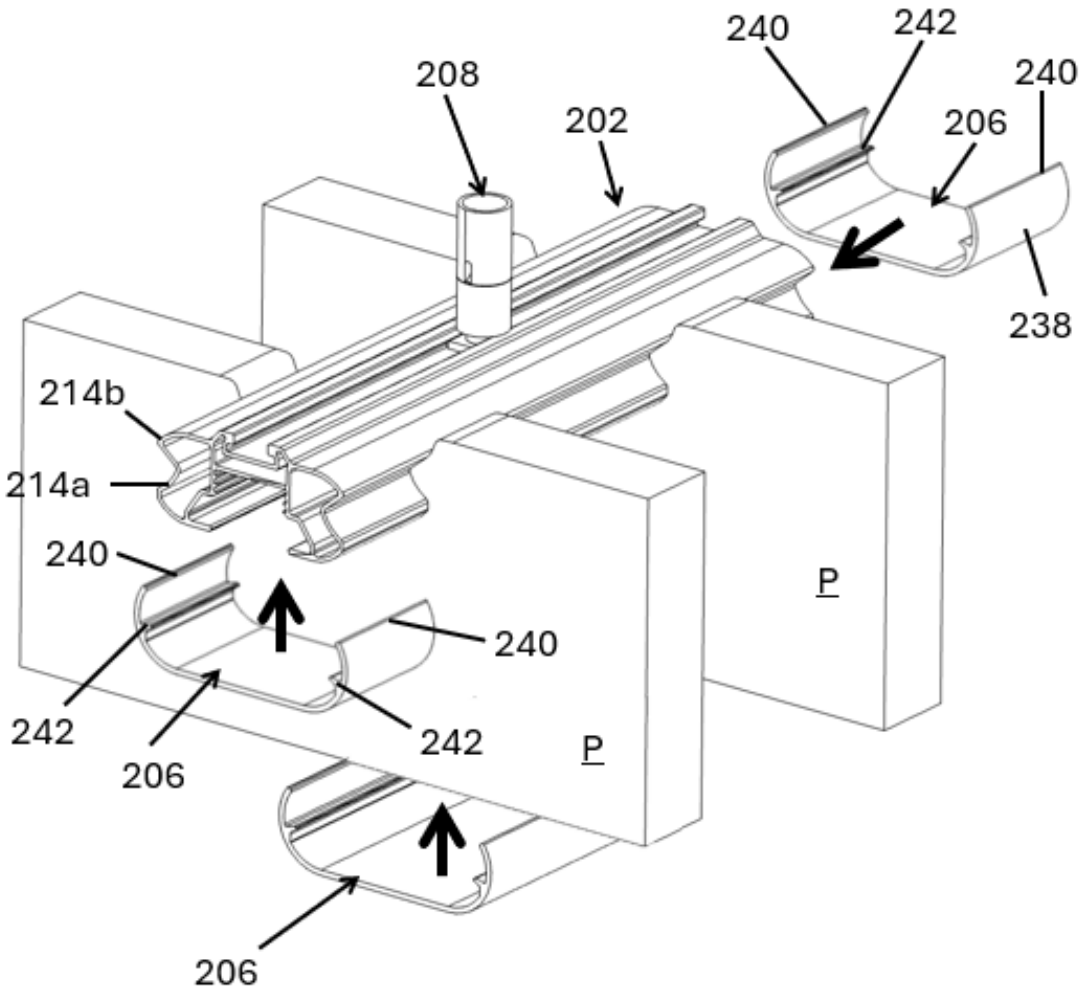

Figure 32

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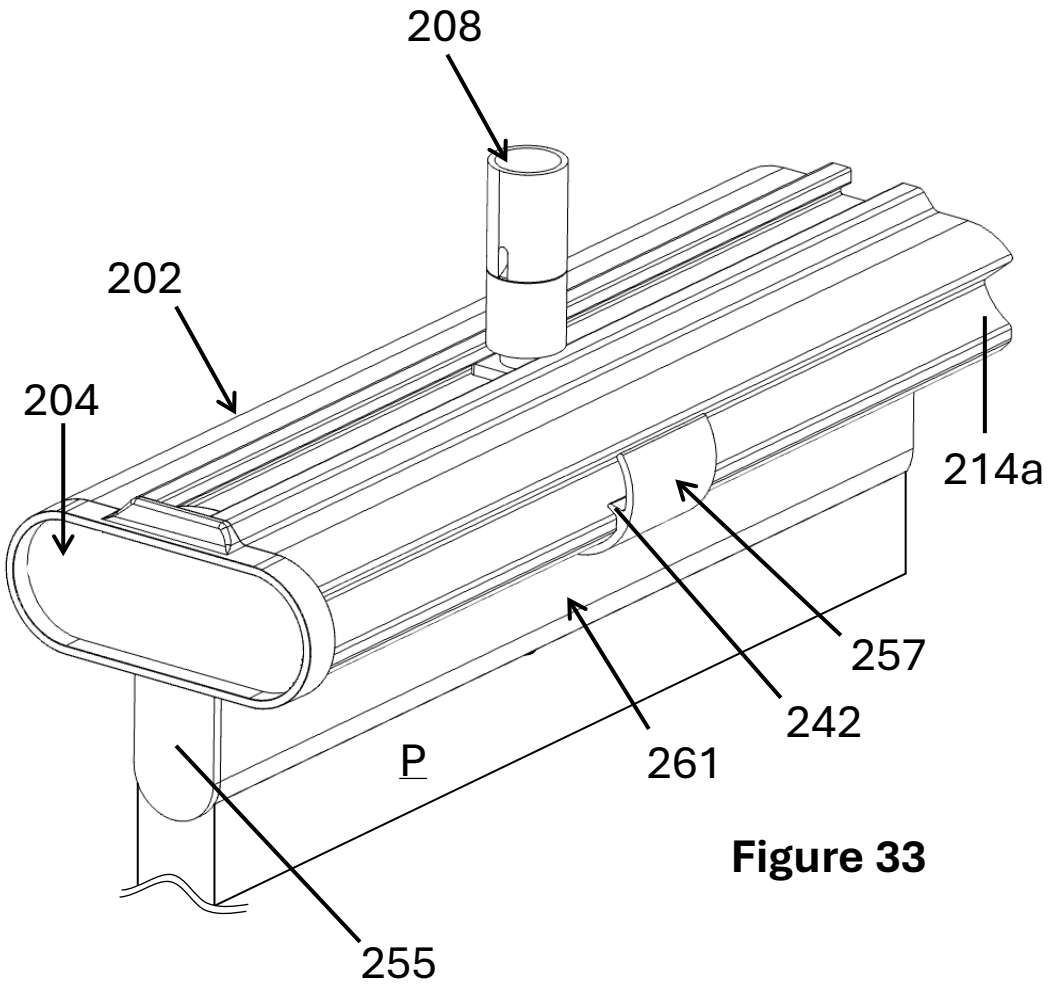

Figure 33

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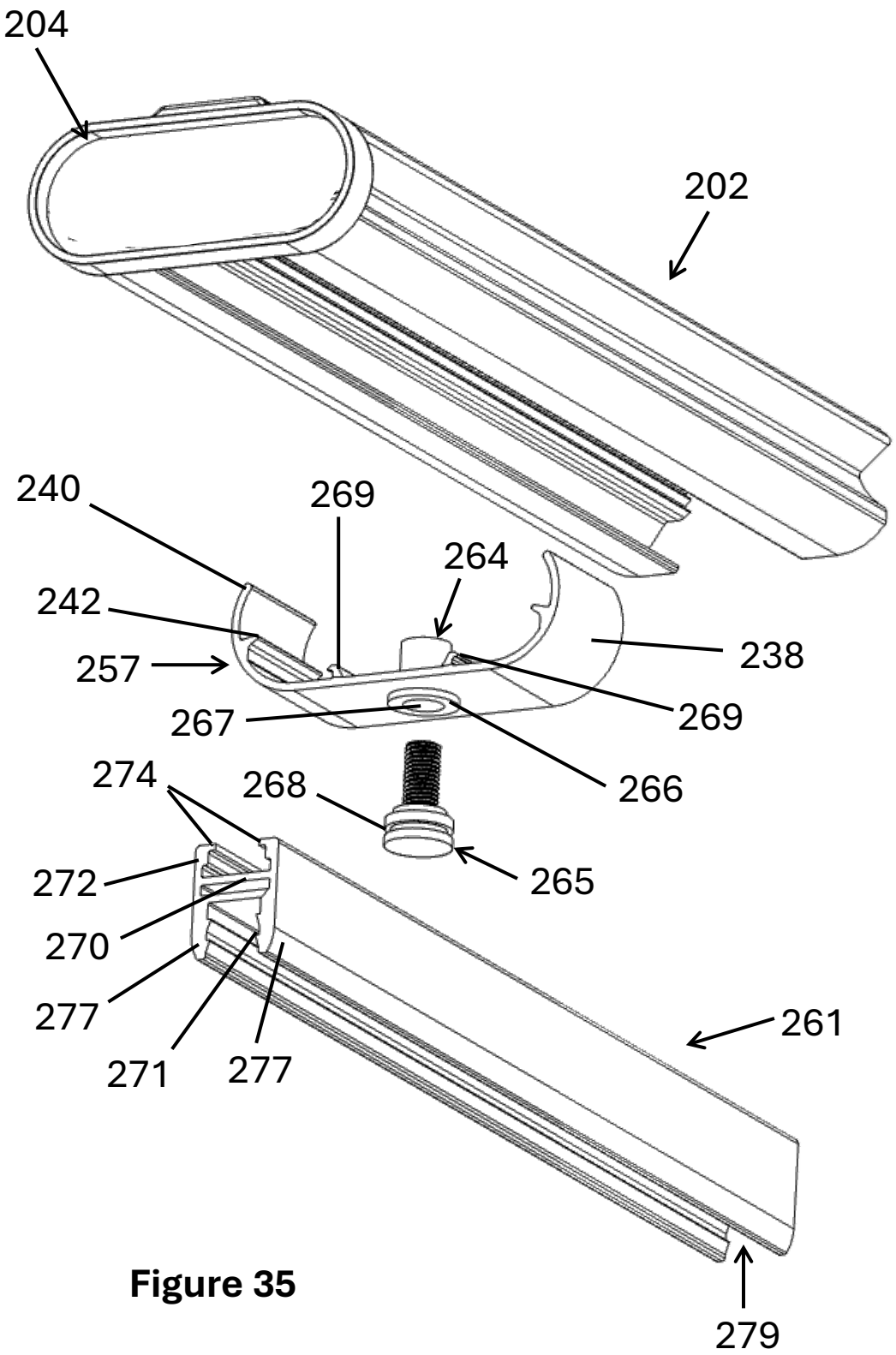

Figure 35

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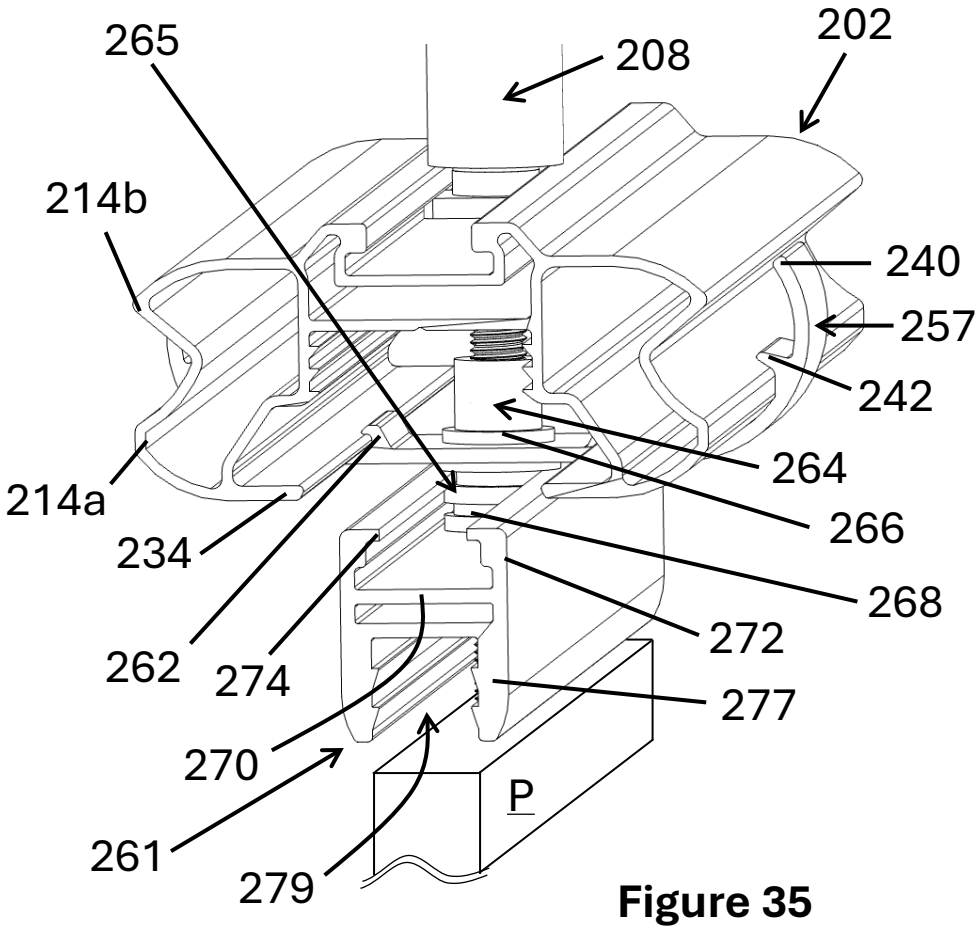
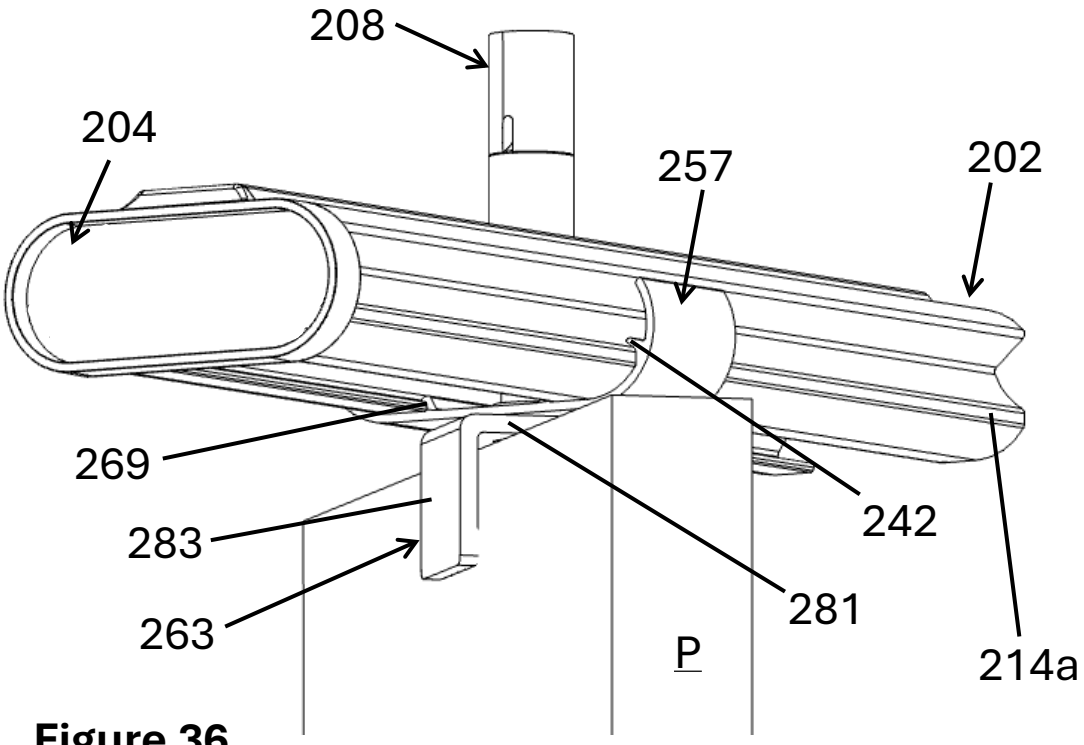


Figure 35



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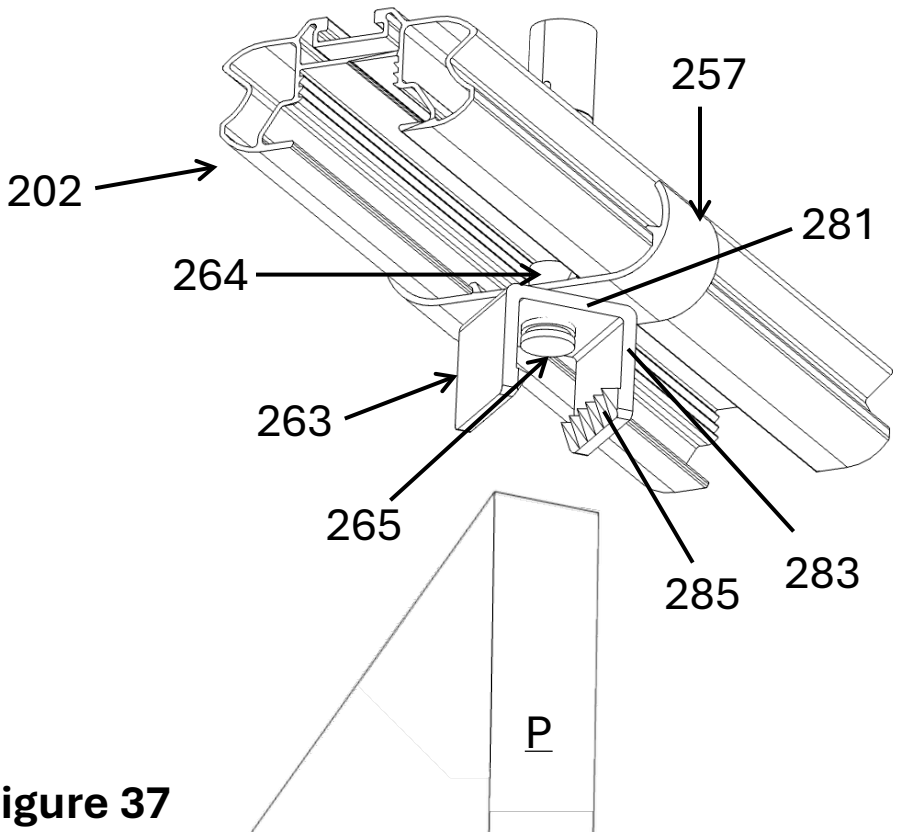

Figure 37

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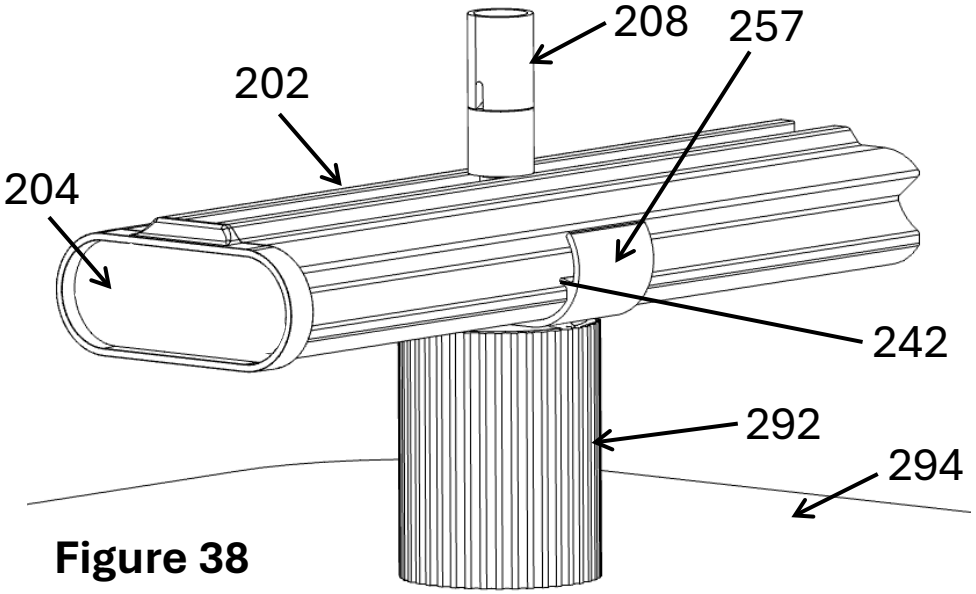

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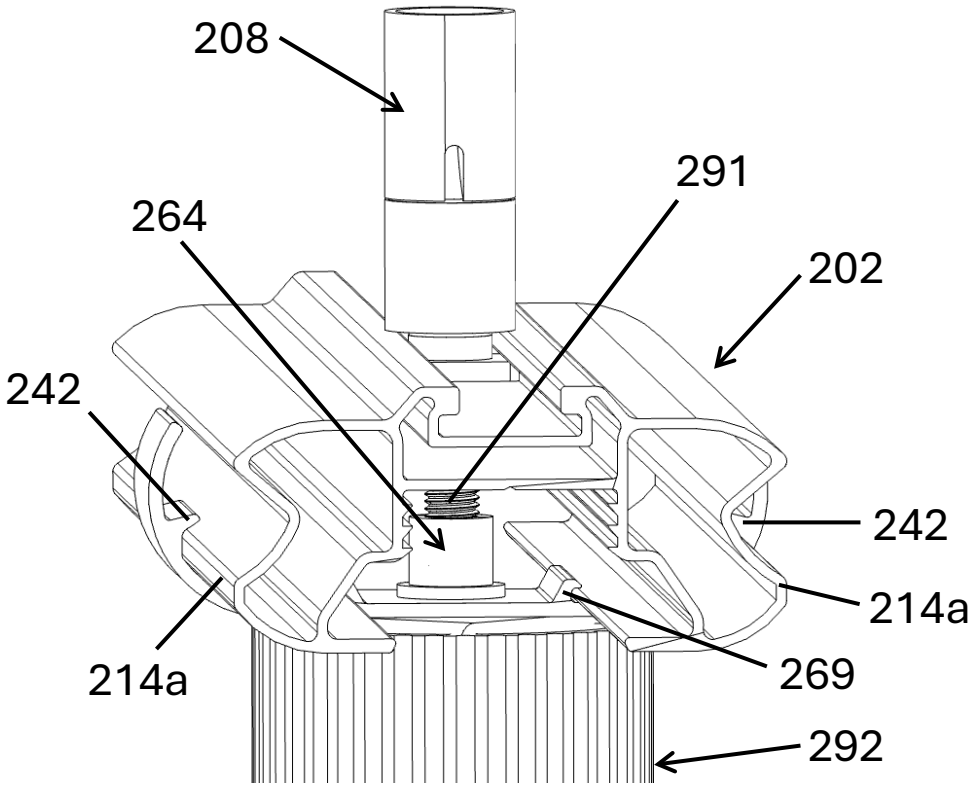

Figure 39

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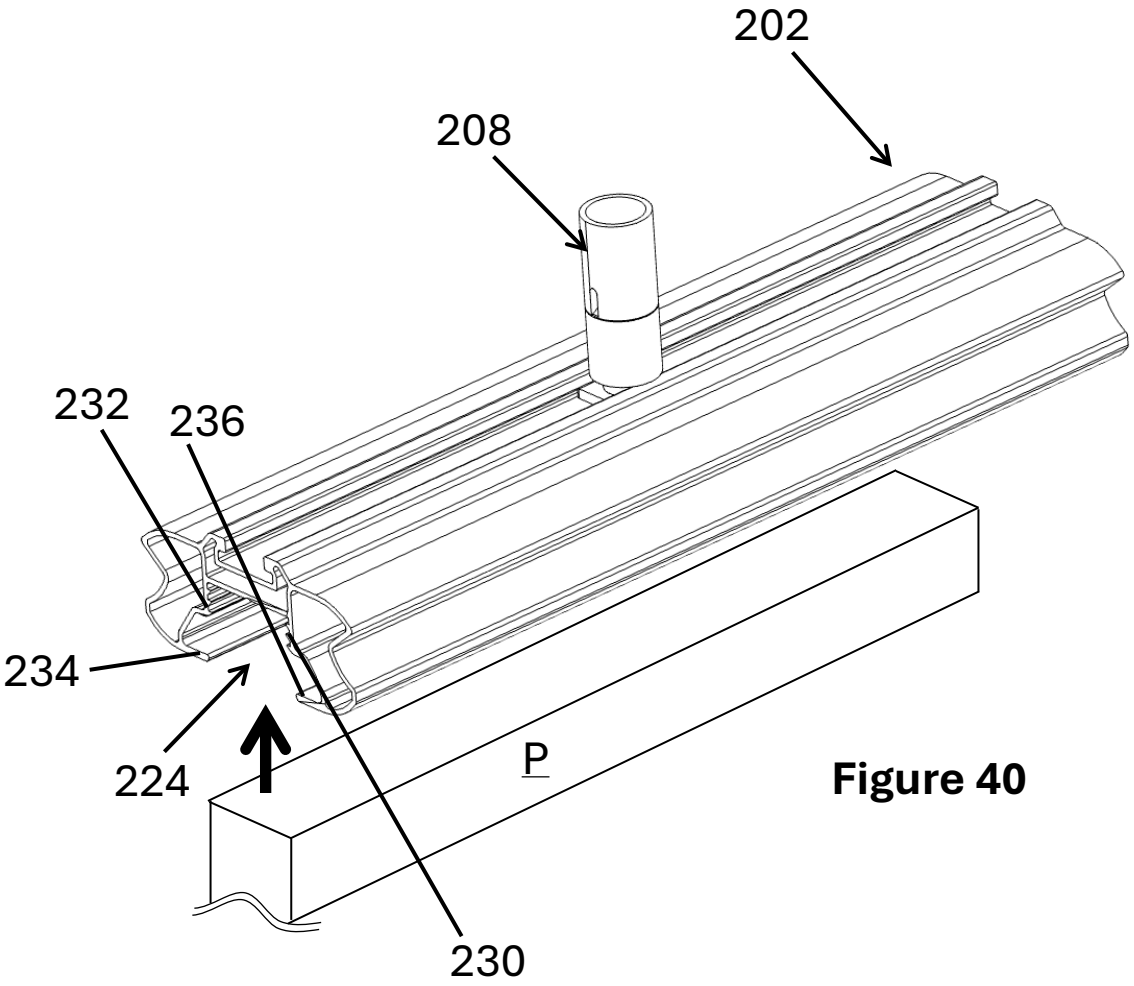

Figure 40