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(54) **IMPROVED BARRIER**

VERBESSESTE TRENNWAND

BARRIERE AMELIOREE

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DescriptionTechnical Field

[0001] This invention relates to a barrier used, in particular, in the sector of infrastructures or of constructions in general.

[0002] More specifically, the barrier can be used in any construction or is preferably erected alongside lines of communication such as roads, motorways and railways, in particular to isolate them acoustically from the surrounding environment.

Background Art

[0003] Barriers comprising soundproofing panels are known in the prior art in this field. The panels are mounted on H profile sections made of metal by inserting a lateral portion of the panel between the flanges of the profile section and fastening it to the profile section using a plug made of an elastic material. The plug does not, however, allow fastening if the thickness of the profile sections is much greater than the thickness of the panel the elastic plug is associated with.

[0004] In other prior art barriers, the interposed means for connection to the supporting profile section are in the form of screw fastening means inserted in a bush embedded in the panel. The screw holds the panel thanks to a lock nut which, however, abuts directly against the panel concrete, creating an area of excessive stress, with all the problems that this involves, especially when the structure is exposed to states of intense vibration. In particular, the fastening screw tends to come loose, eventually leading to unwanted slackening of the structure.

[0005] US 5 572 847 A discloses a barrier having the features of the preamble of claim 1.

Summary of the Invention

[0006] It is provided a barrier according to claim 1.

[0007] The panel can easily be fastened to the profile sections, or supporting means, whatever the geometry of the supporting means themselves.

[0008] Further, operators responsible for mounting the panel on the supporting means can act directly on the interposed means after positioning the panel at the supporting means.

[0009] This greatly facilitates barrier panel erection on site and is well suited to panel supporting means of any size.

Brief Description of the Drawings

[0010] The technical characteristics of the barrier according to the invention are clearly described in the appended claims and the advantages are more apparent from the detailed description which follows, with reference to the accompanying drawings, which illustrate non-

limiting examples of embodiments of the invention and in which:

- Figure 1 is a schematic perspective view of a detail of a first preferred embodiment of the barrier according to the invention, mounting a first preferred embodiment of interposed means for engaging the panel to the respective supporting upright;
- Figure 2 is a schematic perspective view of a detail of a panel 10 with a respective interposed element;
- Figure 3 is an exploded perspective view of the detail of Figure 2;
- Figure 4 is a schematic front view showing only the panel 10 of the first preferred embodiment;
- Figure 5 is a schematic rear view showing only the panel of the first preferred embodiment of the barrier;
- Figure 6 is a schematic rear view showing the first plug of the first preferred embodiment of the interposed means;
- Figure 7 is schematic cross section through the line A1-A1 of Figure 6 showing the first plug constituting the first embodiment of the interposed means;
- Figure 8 is a schematic horizontal cross section through the line A-A of Figure 6 showing the first plug constituting the first preferred embodiment of the interposed means;
- Figures 9A and 9B are schematic rear views respectively showing the second and third plugs of the first preferred embodiment of the interposed means;
- Figure 10 is a schematic cross section through the line B1-B1 of Figure 9A showing the second plug;
- Figure 11 is a schematic cross section through the line B-B of Figure 9A showing the second plug;
- Figure 12 is a cross section similar to that of Figure 10, through the line B1-B1 of Figure 9B, showing a third plug of the first preferred embodiment of the interposed means;
- Figure 13 is a cross section similar to that of Figure 11, through the line B-B of Figure 9B, showing the third plug of the first preferred embodiment of the interposed means;
- Figure 14 is a vertical cross section of the zone where the interposed means are positioned on the respective panel, showing in particular the internal reinforcement at that zone;
- Figure 15 is a horizontal cross section of a side, rear zone of the panel, in particular illustrating means for abutting or engaging the back of the panel to the transversal flange of the supporting means, said means not being part of the invention;
- Figure 16 shows a second embodiment of the abutment means in a cross section similar to that of Figure 15, said embodiment not being part of the invention;
- Figure 17 is a schematic perspective view similar to that of Figure 1, showing a second embodiment of the interposed means, this embodiment not being part of the invention;

- Figure 18 is a schematic perspective view similar to that of Figure 2, showing a panel mounting the second embodiment of the interposed means, this embodiment not being part of the invention;
- Figure 19 is a schematic exploded perspective view similar to that of Figure 3, illustrating the second embodiment of the interposed means between the panel and the supporting profile section, this embodiment not being part of the invention;
- Figure 20 is a vertical cross section similar to that of Figure 14, showing the extension zone of the interposed means and, in particular, the shape of the reinforcement at said zone, where the interposed means are housed in the panel, this embodiment not being part of the invention;
- Figures 21 to 23 are views similar to those of Figures 1, 2 and 3, illustrating a third embodiment of the barrier mounting a third embodiment of the interposed means, this embodiment not being part of the invention;
- Figures 24, 25 and 26 are views similar to those of Figures 1, 2 and 3, illustrating a fourth embodiment of the barrier mounting a fourth embodiment of the interposed means, this embodiment not being part of the invention.

Detailed Description of the Drawings

[0011] Figure 1 illustrates a detail of a barrier 11, designed in particular to be erected alongside lines of communication such as railways, roads, motorways and the like. The barrier comprises respective panels, of which only a portion, labelled 10, is illustrated in Figure 1, and means 13 for supporting the panels, comprising preferably an H profile section made of metal and mounted vertically on a respective foundation which is not illustrated in the accompanying drawings and which may be of customary type well known to an expert in the trade.

[0012] The panel 10, as may be inferred also from Figure 4, comprises a panel body 12 which is made mainly of concrete reinforced with metal bars and which has a front face 12' and a rear face 12'', illustrated in Figure 5, where the front face 12' comprises a plurality of protruding surfaces constituting means for providing a sound-proofing effect.

[0013] The panel has a top face 16, a bottom face 18 and opposite lateral end portions 12a, 12a extending between corresponding transversal portions, or flanges 13a, 13a of the panel supporting means 13, as illustrated in Figure 1, where the reference numeral 13b denotes the perpendicular core of the profile section 13, connecting the flanges 13a, 13a.

[0014] As illustrated, interposed means or elements 30 are provided between the panel 10 and an opposite transversal portion 13a of the supporting means 13, said interposed or compensation means 30 extending perpendicularly relative to the front surface 12' of the panel and engage the opposite transversal portion 13a of the sup-

porting means 13, as may be inferred from Figure 1.

[0015] According to the invention, the interposed means 30 comprise a first plug, or base plug 32 for engaging the respective panel 10 and a second, superposed plug 34 for fastening or connecting to the first plug 32 in order to create a longer perpendicular interposed element 30 suitable for engaging a profile section with a longer than standard perpendicular core 13b.

[0016] As illustrated, this embodiment of the interposed means 30 also comprises a third, superposed plug 36 designed to be placed over the second plug 34 in order to further extend the length of the perpendicular interposed means 30 to engage the respective flange 13a of the profile section.

[0017] It will be understood, however, that the interposed means used for narrower profile sections or thicker panels might comprise only the first and second plugs 32, 34.

[0018] Means are advantageously provided for fastening the plug 34 or 36 to the plug 32 or 34 below it, said means being embodied by respective rod-like means, in particular in the form of a plurality of perpendicular screws provided at the corners of the respective plug.

[0019] As illustrated, the plugs are provided with matching sockets or holes, 33', 33'', 33 for receiving respective screws or rod-like elements, not illustrated in detail in the drawings.

[0020] In particular, the means for fastening the plug below comprise bush means or holes 33 for receiving respective rod-like means or screws which, as illustrated, extend from the body of the plug to provide means for insertion into respective bush means in the plug below.

[0021] In particular, as illustrated in the drawings of the superposed plugs 34 and 36, the bush means 33 have a first, wide stretch 33a and a second, narrow stretch 33b, having a cylindrical inside surface 33'b constituting means for engaging the circumferential peripheral surface of the fastening rod, and a cylindrical outside surface 33''b designed to engage the wide cylindrical surface of the bush in which it is inserted.

[0022] In the base plug 32, the perpendicular bushes 33' have a large diameter, like the matching holes 33''.

[0023] Advantageously, each plug is made of plastic material by moulding and has a base layer or wall 30a, from which there extends in criss-cross fashion a plurality of lateral and intermediate walls, the peripheral or lateral walls being labelled 30b, and the intermediate walls or ribs being labelled 30c. The internal ribs constitute means for reinforcing the structure of the plug.

[0024] As may be inferred in particular from Figure 14, the panel 10 has internal reinforcement of steel rods or rod meshing, denoted in its entirety by the reference numeral 18'.

[0025] In particular, as illustrated, there is at least one outside layer 18a and one inside layer 18b of reinforcement rods. The reinforcement 18' is embedded in a concrete casting having suitable properties and quadrangular outside profile.

[0026] According to the invention, the panel 10 is provided with a socket or housing 54 for accommodating the base plug 32.

[0027] The socket or housing 54 is in the form of a shaped recess having a perpendicular, or horizontal edge, 54a, on the side of the recess extending towards the median or inner part of the panel, a pair of lateral or perpendicular surfaces 54b and 54c and a rear, or bottom, transversal surface with an end portion 54d leading to the respective upper or lower panel edge 16 or 18, and inclined slightly towards the front of the panel, and a part 54e that is substantially parallel to the front and rear transversal faces of the panel.

[0028] As illustrated, in use, the prismatic plug 32, is inserted into said recess or socket 54 and has a tab 32' protruding perpendicularly from an end wall 30b, said tab being positioned at the respective upper or lower edge 16 or 18 of the panel to be tightened and retained by the panel or other part positioned above or below.

[0029] As illustrated, the shaped part of the front face 12' of the panel 10 occupies a wide central zone of the latter, excluding its peripheral and lateral strips 12a, 12a where the respective housing sockets 54 are located.

[0030] In particular, there is a plurality of sockets 54 provided at respective lateral, upper and lower zones of the panel 10.

[0031] In practice, modular interposed means are thus provided. In effect, the interposed means may, depending on requirements, comprise a single plug 32, or any desired number of plugs, even higher than the three plugs 32, 34, 36 illustrated here.

[0032] Further, as illustrated here, the plugs 32, 34, 36 may differ in thickness or height, to enable these modular means to be used in a wide range of working conditions.

[0033] In other terms, the plugs 32, 34, 36 constitute a set of plugs that can be conveniently connected to each other. Obviously, the set of plugs might comprise a larger number of plugs and include plugs of any thickness.

[0034] As may be inferred in particular from Figures 5, 14 and 15, elastic means or elements 40 are advantageously provided for abutting one face, in particular a rear face 12" of the panel 10, against a facing rear transversal portion or flange 13a of the supporting means 13.

[0035] As illustrated, the elastic abutment means 40 extend perpendicularly to the panel 10 from the transversal face 12" opposite that where the interposed means 30 extend.

[0036] As illustrated, the abutment means 40 extend vertically for substantially the full height of the panel 10 and are located at a respective lateral zone 12a, 12a of the panel 10.

[0037] As may be well inferred from Figure 15, the abutment means 40 are in the form of a longitudinally hollow element having a flat portion 41 which abuts the rear face 12" of the panel 10, and an arcuate portion 43 which extends from the flat portion 41 and which is designed to engage the respective flange 13a of the means for engaging the panel 10 supporting means.

[0038] In particular, the arcuate engagement portion 43 forms, with the flat layer 41, a longitudinal cavity 44, into which a galvanized plate 45 can be conveniently inserted and then pulled out after the concrete has hardened sufficiently, that is to say, removed after the panel 10 has been made.

[0039] As illustrated, the elastic abutment 40 of the panel 10 to the respective supporting profile section 13 comprises panel fastening means, which comprise a respective perpendicular tab 42 that extends from the flat portion 41 of the abutment element 40 and is designed to be inserted into the panel body.

[0040] The tab 42 extends from the centre of the flat layer 41 and has an enlarged, pointed end portion 42a.

[0041] According to a second embodiment 140 of the rear abutment means or elements, illustrated in Figure 16, but not part of the invention, a vertically elongated elastic element comprises a flat layer or surface 141 for abutting the rear face 12" of the panel 10, from which there extends a portion, labelled 143 in its entirety, and which in turn comprises a flat portion 143a for engaging the respective rear flange 13a of the supporting profile section 13, and respective perpendicular portions 143b, 143c for connection to the portion 143 to the base portion 141.

[0042] Thus, also the second embodiment of the abutment element 140 has a central cavity 144, included between the protruding element 143 and the flat layer 141, but smaller than the one of the first preferred embodiment.

[0043] In practice, the perpendicular portions 143b, 143c extending from the engagement layer 140 provide, with the engagement portion 143a, an element for flexibly engaging the respective profile section 13.

[0044] In the second embodiment, too, means are provided for engaging the body of the panel 10, which are inserted in the panel body and comprise, in particular a first and a second tab 142a, 142b extending from the lateral ends of the engagement layer 141.

[0045] The lateral insertion tabs 142a, 142b comprise a respective portion 146a, 146b that extends parallel to the rear engagement face of the panel 12".

[0046] More specifically, the portions 146a, 146b parallel to the rear face 12" of the panel 10 extend towards each other from the perpendicular portions 147a, 147b of the flat layer 141.

[0047] The tabs 146a, 146b are fastened to a plate 148 embedded in the concrete by means of perpendicular rods or screws 149, 149 inserted into the base 141 when the concrete is still fresh.

[0048] Advantageously, both the abutment seals 40, 140 are made of an elastic material, preferably EPDM.

[0049] Figures 17 to 20 illustrate a second embodiment 111 of the barrier which is not part of the invention.

[0050] The panel 10 used in the second embodiment is similar to that of the first preferred embodiment. The components of the second embodiment that are similar to those of the first embodiment are denoted by the same

reference numerals and for convenience and brevity are not commented again in detail.

[0051] The second embodiment of the barrier comprises adjustable interposed or compensation means in the form of a rod-like element 131 protruding from a bush 132, that is inserted, or embedded, in the panel body, the bush 132 being open at the front end and having a cylindrical inside surface for engaging the outside surface of the rod 131.

[0052] In particular, the cylindrical inside surface of the bush 132 giving onto the front surface of the panel is provided with threading that cooperates with a similar threading provided on the outside cylindrical surface of the protruding rod or screw 131.

[0053] Advantageously, the bush 132 is situated and gives onto the flat inside face 54e of the socket 54.

[0054] In the second embodiment, too, as illustrated in Figure 20, means are provided for reinforcing the concrete panel and comprising at least one outside layer 118a and an inside layer 118b comprising metal rods or meshing.

[0055] In practice, as illustrated, the interposed means advantageously comprise a rod-like element 131, which terminates with an enlarged head 143' forming an abutment shoe having an engagement or contact layer 145 of suitable elastic material.

[0056] As illustrated, the shoe 143' profile is flared towards the free engagement end 145 so as to form a wide engagement surface larger in diameter than the bush and the respective shoe rod.

[0057] The shoe 143' is connected to the rod 131 by an articulated connection comprising hinge means enabling it to be positioned at any desired angle to the rod 131. This avoids unwanted flexural stresses between the shoe, or enlarged head, and the rod. The articulated means are not illustrated in detail in the drawings.

[0058] Means might also be provided for locking the rod 131 in the extended engaged condition, said locking means being in particular in the form of a hexagonal nut 158 and comprising a cylindrical inside surface which is threaded and which cooperates with the outside threading of the rod 131. As illustrated, the nut 158 engages a respective washer 159.

[0059] Further, the interposed means 130 advantageously comprise a distribution element 133 that is connected to the rod 131 through the lock nut 158 and abutting against the corresponding front face 54e of the panel 10 through respective interposed elastic means 134.

[0060] For the purpose, the interposed means of the second embodiment comprise an elastic plate 134, preferably of EPDM, which engages the front face 54e of the socket 54 and which abuts the quadrangular metal plate 133 upon which the lock nut 158 operates. In this way, the stresses are conveniently distributed, avoiding breakage of the concrete and slackening of the connection.

[0061] The metal plate 133 constitutes means for locking the elastic plate 134 against the front face 54e of the socket 54.

[0062] As illustrated, the EPDM layer 134 and the metal lock plate 133 have holes 133' and 134' in the middle of them through which the rod 131 can pass.

[0063] Figures 21 to 23 illustrate a third embodiment 211 of the barrier, which is not part of the invention.

[0064] The third embodiment of the barrier uses a panel 10 similar to those of the embodiments described above and comprises interposed means or elements 230 similar to those of the second embodiment, including an extension screw 231 that fits into a corresponding threaded bush 132 and a distribution element 133 connected to the rod 131 through the lock nut 158 that abuts against the corresponding front face 54e of the panel 10 through respective interposed elastic means 134.

[0065] In this case, too, the components of the third embodiment that are similar to those of the other embodiments already described are denoted by the same reference numerals and for convenience and brevity are not commented again in detail.

[0066] The third embodiment differs from the second embodiment in that its interposed means 230 comprise a rod 231 having a large head 243 that is connected as one to, or made as a single part with, the rod 231.

[0067] A cap 245, made of an elastic material, preferably rubber, is also provided for covering the large head 243 of the screw 231.

[0068] In the third embodiment, too, the EPDM layer 134 and the metal plate 133 have holes in the middle of them through which the rod 231 can pass.

[0069] Figures 24 to 26 illustrate a fourth embodiment 311 of the barrier not part of the invention.

[0070] The fourth embodiment of the barrier uses a panel 10 similar to those of the embodiments described above and comprises interposed means or elements 330 similar to those of the second embodiment, including an extension screw 331 that fits into a corresponding threaded bush 132, the interposed means 330 advantageously comprising a distribution element 333 connected to the rod 331 and abutting against the corresponding front face 54e of the panel 10 through respective interposed elastic means 334a.

[0071] In this case, too, the components of the fourth embodiment that are similar to those of the other embodiments already described are denoted by the same reference numerals and for convenience and brevity are not commented again in detail.

[0072] The fourth embodiment differs from the third embodiment in that its interposed means 330 comprise a rod 331 with a wide, thin head 343 which is integral with the rod 331 and which is recessed in a respective outer, or front layer 334b of elastic material preferably on the form of a layer of EPDM.

[0073] In practice, as illustrated, the fourth embodiment comprises a metal plate 333 that is thicker than the equivalent metal plate of the second and third embodiments described above, the metal plate 333 being held in place between a first and a second layer 334a, 334b of EPDM.

[0074] In particular, there is a single elastic element 334 with a first and a second transversal strip 334a, 334b connected to each other by a short perpendicular portion 334c.

[0075] Further, the transversal strip 334b of the elastic element is placed over the head 343 of the rod 331 or might have a large central cavity allowing the head 343 of the rod 331 to be accommodated under the outside or front face 334'b of the elastic layer 334b.

[0076] As illustrated, the front face 334'b of the elastic layer 334b constitutes means for engaging the opposing transversal flange 13a of the profile section 13.

[0077] In the fourth embodiment, too, the EPDM layer 334a, which engages the socket 54, and the metal plate 333 have holes in the middle of them through which the rod or screw 331 can pass.

[0078] The invention described above is susceptible of industrial application and may be modified and adapted in several ways as defined in the appended claims.

Claims

1. A barrier (11) comprising respective panels (10) and means (13) for supporting the panels, each panel (10) having a panel body (12) with a top face (16) and a bottom face (18), transversal front (12') and rear (12'') faces, and opposite lateral end portions (12a, 12a) extending between corresponding transversal portions (13a, 13a) of the panel supporting means; interposed means (30) being provided between the panel (10) and a transversal portion (13a) of the supporting means (13) facing the panel (10), said interposed means (30) extending perpendicularly to the panel and engaging said transversal portion (13a) of the supporting means (13); the interposed means (30) comprising a first plug (32) for engaging the respective panel (10) and a second, superposed plug (34) placed over the first plug (32); the first plug (32) being accommodated in a corresponding housing (54) in the panel (10) that is recessed relative to a transversal face (12'; 12'') of the panel (10); **characterized in that** the first plug (32) comprises a protruding tab (32') constituting means for fastening the first plug (32) to the panel; the tab (32') protruding perpendicularly to a base wall (30a) and from a peripheral wall (30b) of the first plug and being positioned at the respective top or bottom face (16 or 18) of the panel to be tightened and retained by the panel or other part positioned above or below.
2. The barrier according to claim 1, **characterized in that** the interposed means (30) comprise a third plug (36) for superposing the second plug (34).
3. The barrier according to either of the foregoing claims, **characterized in that** it comprises means for fastening the plug (34; 36) to the plug (32; 34)

below it.

4. The barrier according to claim 3, **characterized in that** the means for fastening the plug below (32; 34) comprise respective rod-like means.
5. The barrier according to claim 3 or 4, **characterized in that** the means for fastening the plug below (32; 34) comprise a plurality of perpendicular rods at the corners of the plug.
6. The barrier according to any of the foregoing claims from 3 to 5, **characterized in that** the means for fastening the plug below (32; 34) are in the form of respective screw means.
7. The barrier according to any of the foregoing claims from 3 to 6, **characterized in that** the means for fastening the plug below (32; 34) comprise bush means (33) for receiving respective rod-like means.
8. The barrier according to claim 7, **characterized in that** the bush means (33) extend from the plug body, constituting means for insertion into respective bush means (33) on the plug below (32; 34).
9. The barrier according to claim 7 or 8, **characterized in that** the bush means (33) have a wide first section (33a) for receiving a corresponding bush and a narrower second section (33b), constituting means for engaging the rod.
10. The barrier according to any of the foregoing claims, **characterized in that** each plug (32, 34, 36) is made of a plastic material.
11. The barrier according to any of the foregoing claims, **characterized in that** each plug (32, 34, 36) is in the form of a moulded element.
12. The barrier according to any of the foregoing claims, **characterized in that** each plug (32, 34, 36) has a transversal base wall (30a) and a plurality of perpendicular walls (30b, 30c).
13. The barrier according to any of the foregoing claims, **characterized in that** each plug (32, 34, 36) has a plurality of internal reinforcement ribs (30c).
14. The barrier according to any of the foregoing claims, **characterized in that** the housing (54) is in the form of a shaped recess having a perpendicular, or horizontal edge, (54a), on the side of the recess extending towards the median or inner part of the panel, a pair of lateral or perpendicular surfaces (54b and 54c) and a rear, or bottom, transversal surface with an end portion (54d) leading to the respective upper or lower panel edge (16 or 18), and inclined slightly

towards the front of the panel, and a part (54e) that is substantially parallel to the front and rear transversal faces (12', 12'') of the panel.

15. The barrier according to any of the foregoing claims, **characterized in that** it comprises elastic abutment means (40) allowing a face, in particular a rear face (12''), of the panel (10) to be placed against an opposing transversal portion (13a) of the supporting means (13).

Patentansprüche

1. Trennwand (11), umfassend jeweilige Platten (10) und ein Mittel (13) zum Tragen der Platten, wobei jede Platte (10) einen Plattenkörper (12) mit einer Oberseitenfläche (16) und einer Unterseitenfläche (18) und einer vorderen (12') und hinteren (12'') Querfläche, und gegenüberliegenden seitlichen Endabschnitte (12a, 12a) aufweist, die sich zwischen entsprechenden Querabschnitten (13a, 13a) des Plattentragemittels erstrecken; ein zwischengeordnetes Mittel (30), das zwischen der Platte (10) und einem Querabschnitt (13a) des Tragemittels (13) unter Hinwendung zur Platte (10) vorgesehen ist, wobei sich das zwischengeordnete Mittel (30) senkrecht zur Platte erstreckt und in Eingriff mit dem Querabschnitt (13a) des Tragemittels (13) steht; wobei das zwischengeordnete Mittel (30) einen ersten Stecker (32) zum Eingreifen mit der jeweiligen Platte (10) und einen zweiten, darüber angeordneten Stecker (34) umfasst, der über dem ersten Stecker (32) angeordnet ist; wobei der erste Stecker (32) in einem entsprechenden Gehäuse (54) in der Platte (10) aufgenommen ist, das relativ zu einer Querfläche (12'; 12'') der Platte (10) vertieft ist; **dadurch gekennzeichnet, dass** der erste Stecker (32) eine vorspringende Lasche (32') umfasst, die ein Mittel zum Befestigen des ersten Steckers (32) an der Platte bildet; wobei die Lasche (32') senkrecht zu einer Basiswand (30a) und von einer Umfangswand (30b) des ersten Steckers vorspringt und an der jeweiligen Ober- oder Unterseitenfläche (16 oder 18) der Platte angeordnet ist, um festgezogen und von der Platte oder einem anderen darüber oder darunter angeordneten Teil gehalten zu werden.
2. Trennwand nach Anspruch 1, **dadurch gekennzeichnet, dass** das zwischengeordnete Mittel (30) einen dritten Stecker (36) zum Anordnen über dem zweiten Stecker (34) umfasst.
3. Trennwand nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** sie ein Mittel zum Befestigen des Steckers (34; 36) an dem Stecker (32; 34) darunter umfasst.

4. Trennwand nach Anspruch 3, **dadurch gekennzeichnet, dass** das Mittel zum Befestigen des Steckers darunter (32; 34) ein jeweiliges stabartiges Mittel umfasst.
5. Trennwand nach Anspruch 3 oder 4, **dadurch gekennzeichnet, dass** das Mittel zum Befestigen des Steckers darunter (32; 34) eine Mehrzahl von senkrechten Stäben an den Ecken des Steckers umfasst.
6. Trennwand nach einem der vorangehenden Ansprüche 3 bis 5, **dadurch gekennzeichnet, dass** das Mittel zum Befestigen des Steckers darunter (32; 34) die Form eines jeweiligen Schraubmittels aufweist.
7. Trennwand nach einem der vorangehenden Ansprüche 3 bis 5, **dadurch gekennzeichnet, dass** das Mittel zum Befestigen des Steckers darunter (32; 34) ein Hülsenmittel (33) zum Aufnehmen des jeweiligen stabartigen Mittels umfasst.
8. Trennwand nach Anspruch 7, **dadurch gekennzeichnet, dass** das Hülsenmittel (33) sich von dem Steckerkörper erstreckt und ein Mittel zum Einführen in ein jeweiliges Hülsenmittel (33) an dem Stecker darunter (32; 34) bildet.
9. Trennwand nach Anspruch 7 oder 8, **dadurch gekennzeichnet, dass** das Hülsenmittel (33) einen breiten ersten Abschnitt (33a) zum Aufnehmen einer entsprechenden Hülse und einen schmaleren zweiten Abschnitt (33b) aufweist, der ein Mittel zum Eingreifen mit dem Stab bildet.
10. Trennwand nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** jeder Stecker (32, 34, 36) aus einem Kunststoffmaterial hergestellt ist.
11. Trennwand nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** jeder Stecker (32, 34, 36) die Form eines Formelements aufweist.
12. Trennwand nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** jeder Stecker (32, 34, 36) eine Basisquerwand (30a) und eine Mehrzahl von senkrechten Wänden (30b, 30c) aufweist.
13. Trennwand nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** jeder Stecker (32, 34, 36) eine Mehrzahl von internen Verstärkungsrippen (30c) aufweist.
14. Trennwand nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das Gehäuse (54) die Form einer geformten Vertiefung mit einer senkrechten oder horizontalen Kante (54a) auf der

Seite der Vertiefung, die sich zum mittleren oder inneren Teil der Platte erstreckt, ein Paar seitliche oder senkrechte Flächen (54b und 54c) und eine hintere oder untere Querfläche mit einem Endabschnitt (54d), der zu der jeweiligen oberen oder unteren Fläche der Platte (16 oder 18) führt und geringfügig zur Vorderseite der Platte hin geneigt ist, und einen Teil (54e) aufweist, der im Wesentlichen parallel zu der vorderen und hinteren Querfläche (12', 12'') der Platte ist.

15. Trennwand nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** sie ein elastisches Anlagemittel (40) umfasst, das es zulässt, dass eine Fläche, insbesondere eine hintere Fläche (12'') der Platte (10), an einen gegenüberliegenden Querabschnitt (13a) des Tragemittels (13) anliegt.

Revendications

1. Une barrière (11) comprenant des panneaux (10) respectifs et des moyens (13) pour supporter les panneaux, chaque panneau (10) ayant un corps de panneau (12) ayant une face de dessus (16) et une face de dessous (18), des faces transversales avant (12') et arrière (12''), et des portions d'extrémité latérales opposées (12a, 12a) s'étendant entre des portions transversales (13a, 13a) correspondantes des moyens de support du panneau ; des moyens d'interposition (30) étant prévus entre le panneau (10) et une portion transversale (13a) des moyens de support (13) faisant face au panneau (10), lesdits moyens d'interposition (30) s'étendant perpendiculairement au panneau et assujettissant ladite portion transversale (13a) des moyens de support (13) ; les moyens d'interposition (30) comprenant un premier tampon (32) pour assujettir le panneau (10) respectif et un deuxième tampon (34), superposé, placé sur le premier tampon (32) ; le premier tampon (32) étant logé dans un logement (54) correspondant du panneau (10) qui est en retrait par rapport à une face transversale (12' ; 12'') du panneau (10) ; **caractérisée en ce que** le premier tampon (32) comprend une languette en saillie (32') constituant des moyens pour fixer le premier tampon (32) au panneau ; la languette (32') saillant perpendiculairement à une paroi de base (30a) et depuis une paroi périphérique (30b) du premier tampon et étant positionnée au niveau de la face de dessus ou de dessous (16 ou 18) respective du panneau à serrer et retenir par le panneau ou l'autre partie positionnée dessus ou dessous.
2. La barrière selon la revendication 1, **caractérisée en ce que** les moyens d'interposition (30) comprennent un troisième tampon (36) destiné à être superposé sur le deuxième tampon (34).

3. La barrière selon l'une ou l'autre des revendications précédentes, **caractérisée en ce qu'elle** comprend des moyens pour fixer le tampon (34 ; 36) au tampon (32 ; 34) sous-jacent.
4. La barrière selon la revendication 3, **caractérisée en ce que** les moyens de fixation du tampon sous-jacent (32 ; 34) comprennent des moyens à tige respectifs.
5. La barrière selon la revendication 3 ou 4, **caractérisée en ce que** les moyens de fixation du tampon sous-jacent (32 ; 34) comprennent une pluralité de tiges perpendiculaires au niveau des coins du tampon.
6. La barrière selon l'une quelconque des revendications précédentes de 3 à 5, **caractérisée en ce que** les moyens de fixation du tampon sous-jacent (32 ; 34) sont sous la forme de moyens à vis respectifs.
7. La barrière selon l'une quelconque des revendications précédentes de 3 à 6, **caractérisée en ce que** les moyens de fixation du tampon sous-jacent (32 ; 34) comprennent des moyens à douille (33) destinés à recevoir des moyens à tige respectifs.
8. La barrière selon la revendication 7, **caractérisée en ce que** les moyens à douille (33) s'étendent depuis le corps de panneau, constituant des moyens d'insertion dans des moyens à douille (33) respectifs du tampon sous-jacent (32 ; 34).
9. La barrière selon la revendication 7 ou 8, **caractérisée en ce que** les moyens à douille (33) ont une première section large (33a) pour recevoir une douille correspondante et une deuxième section plus étroite (33b), constituant des moyens pour assujettir la tige.
10. La barrière selon l'une quelconque des revendications précédentes, **caractérisée en ce que** chaque tampon (32, 34, 36) est réalisé en matière plastique.
11. La barrière selon l'une quelconque des revendications précédentes, **caractérisée en ce que** chaque tampon (32, 34, 36) est sous la forme d'un élément moulé.
12. La barrière selon l'une quelconque des revendications précédentes, **caractérisée en ce que** chaque tampon (32, 34, 36) a une paroi de base transversale (30a) et une pluralité de parois perpendiculaires (30b, 30c).
13. La barrière selon l'une quelconque des revendications précédentes, **caractérisée en ce que** chaque tampon (32, 34, 36) a une pluralité de nervures de

renforcement intérieures (30c).

14. La barrière selon l'une quelconque des revendications précédentes, **caractérisée en ce que** le logement (54) est sous la forme d'un renforcement profilé ayant un bord perpendiculaire ou horizontal, (54a), du côté du renforcement s'étendant vers la partie médiane ou intérieure du panneau, une paire de surfaces latérales ou perpendiculaires (54b et 54c) et une surface transversale arrière, ou de fond, avec une portion d'extrémité (54d) débouchant sur la face de dessus ou de dessous respective de panneau (16 ou 18), et légèrement inclinée vers l'avant du panneau, et une partie (54e) qui est essentiellement parallèle aux faces transversales avant et arrière (12', 12'') du panneau.
15. La barrière selon l'une quelconque des revendications précédentes, **caractérisée en ce qu'elle** comprend des moyens élastiques de butée (40) permettant de placer une face, en particulier une face arrière (12''), du panneau (10) contre une portion transversale opposée (13a) des moyens de support (13).

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FIG. 1

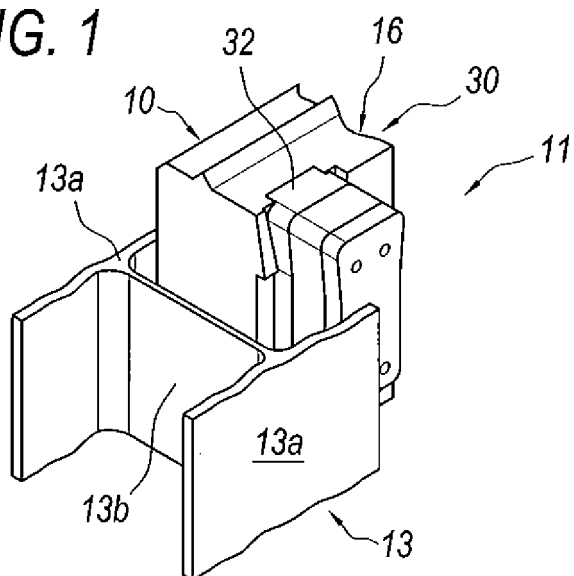


FIG. 2

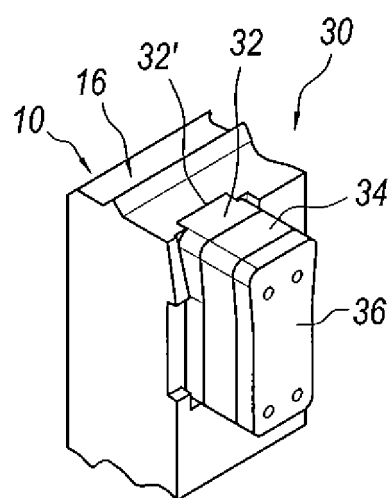
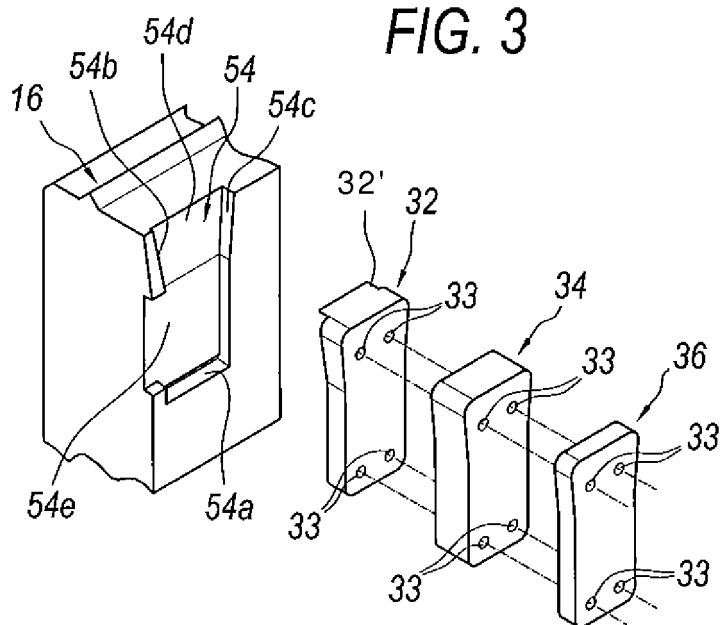


FIG. 3



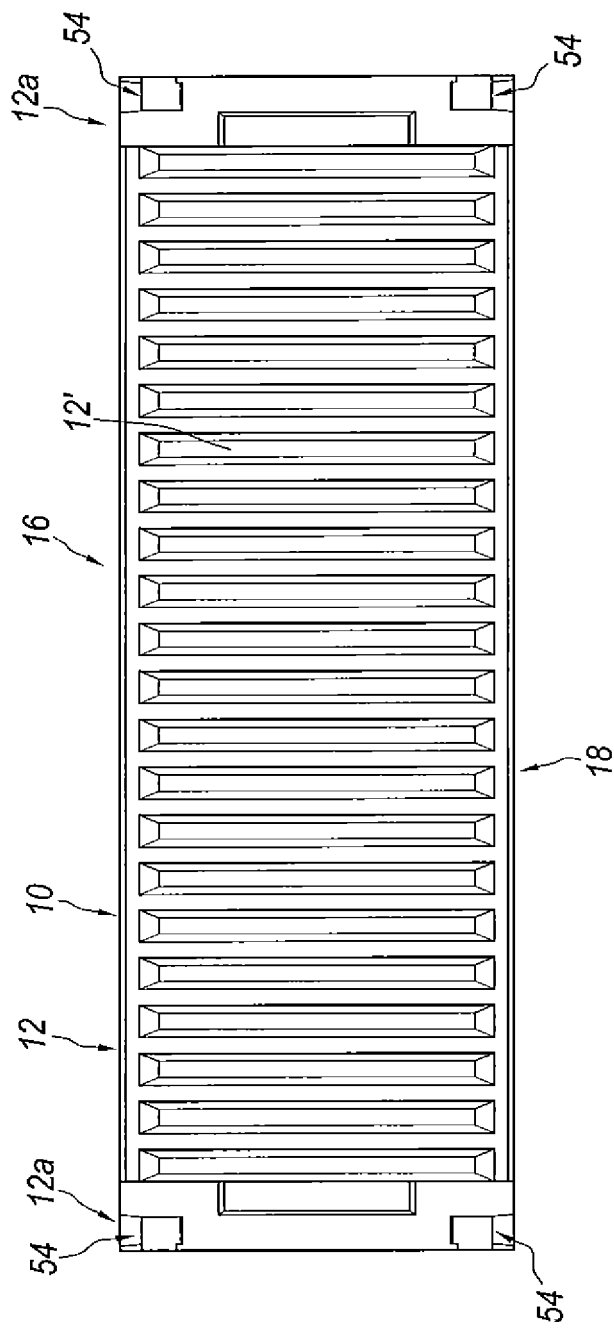


FIG. 4

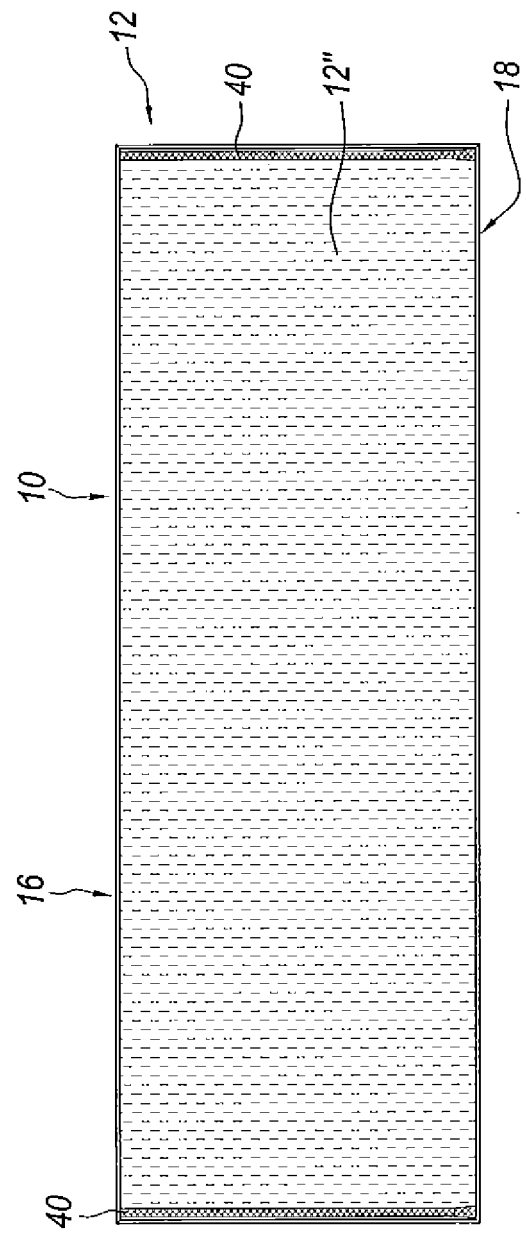


FIG. 5

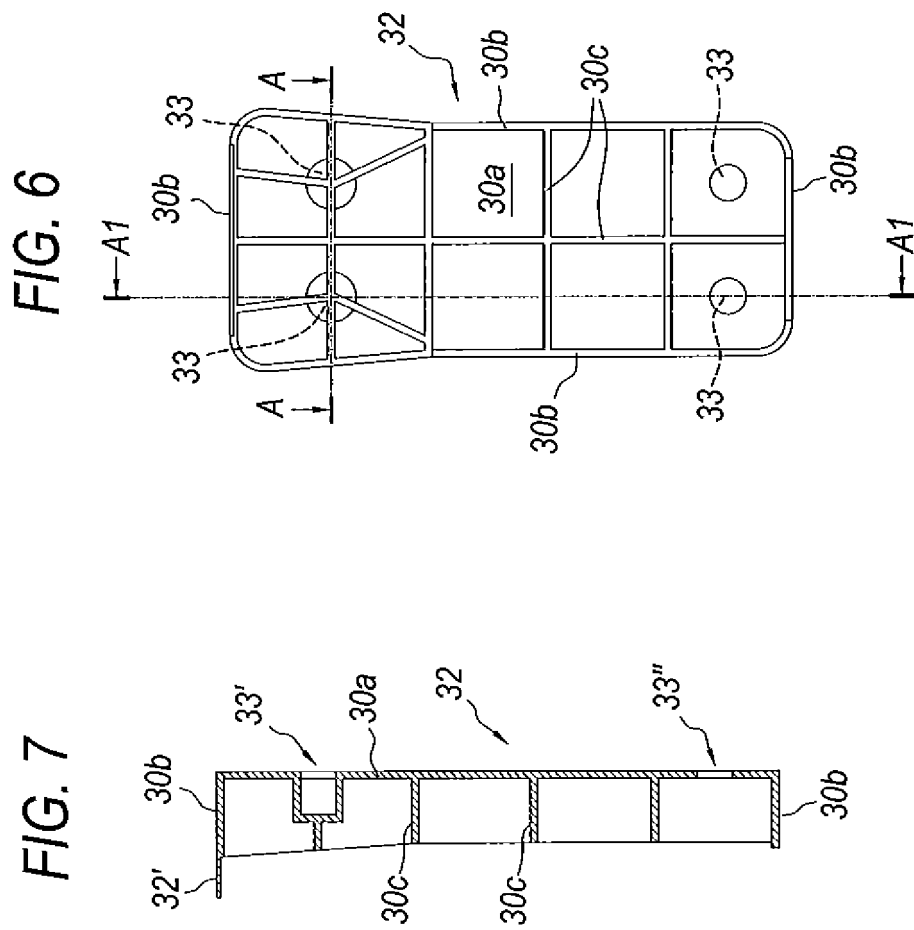


FIG. 10

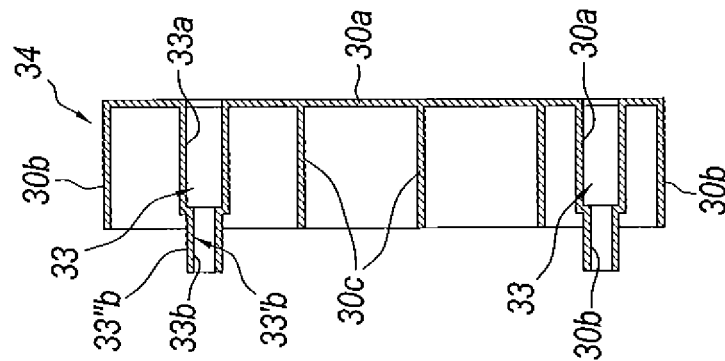


FIG. 9A

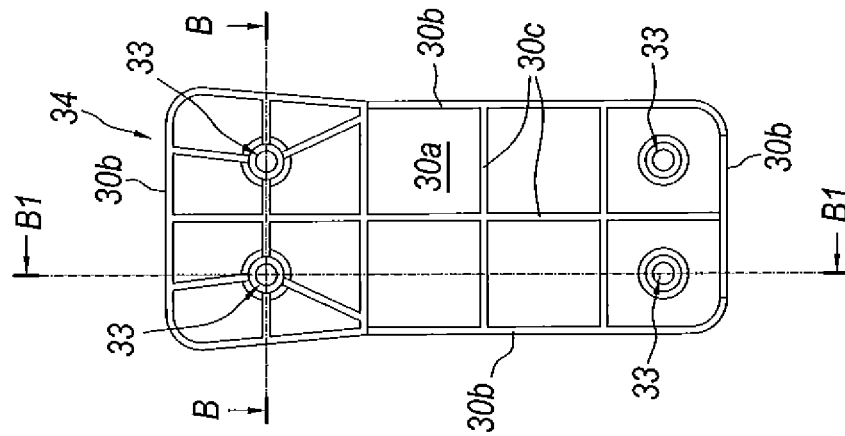


FIG. 9B

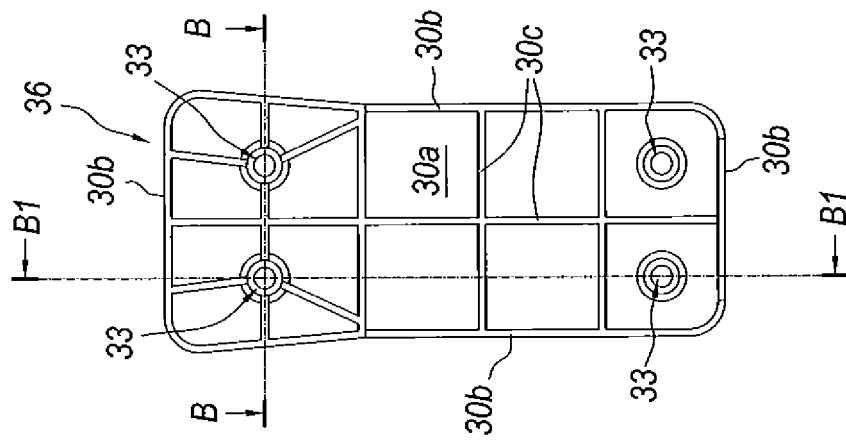


FIG. 11

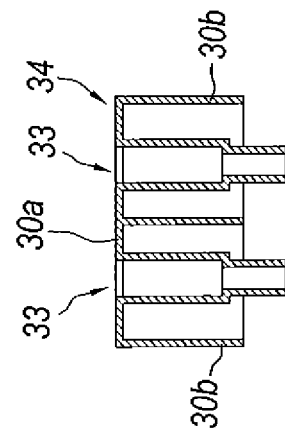


FIG. 14

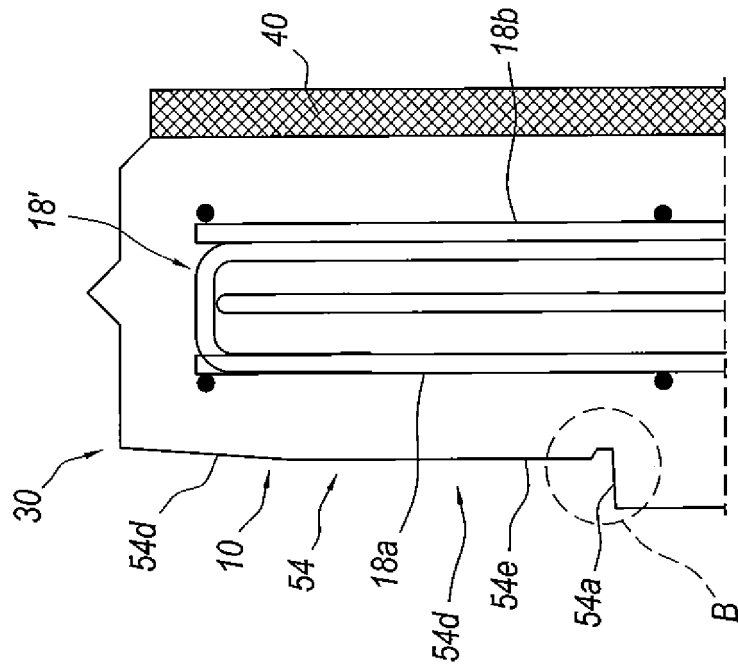


FIG. 13

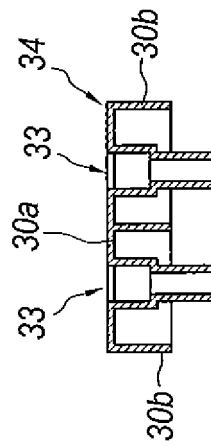


FIG. 12

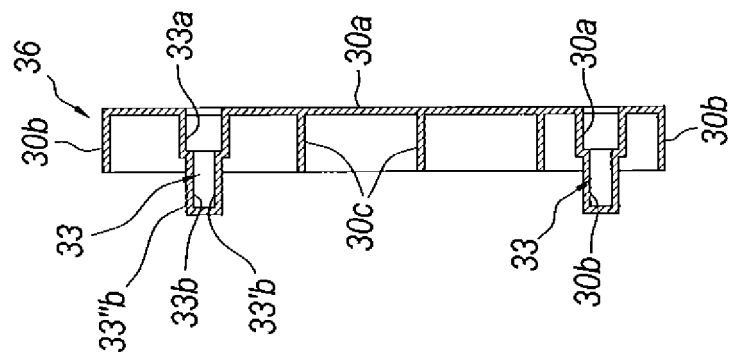


FIG. 15

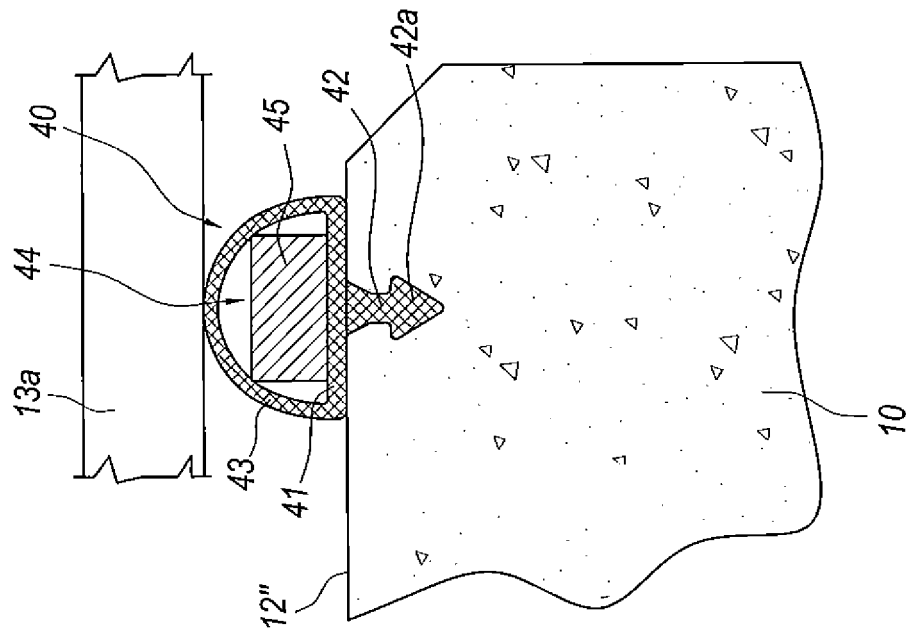
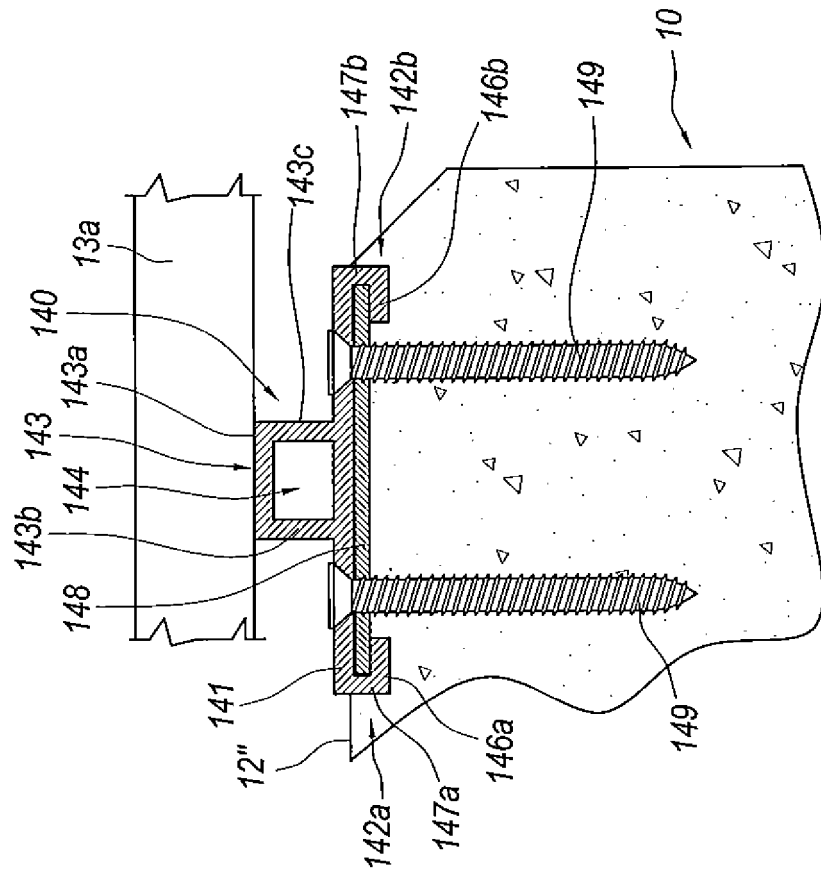
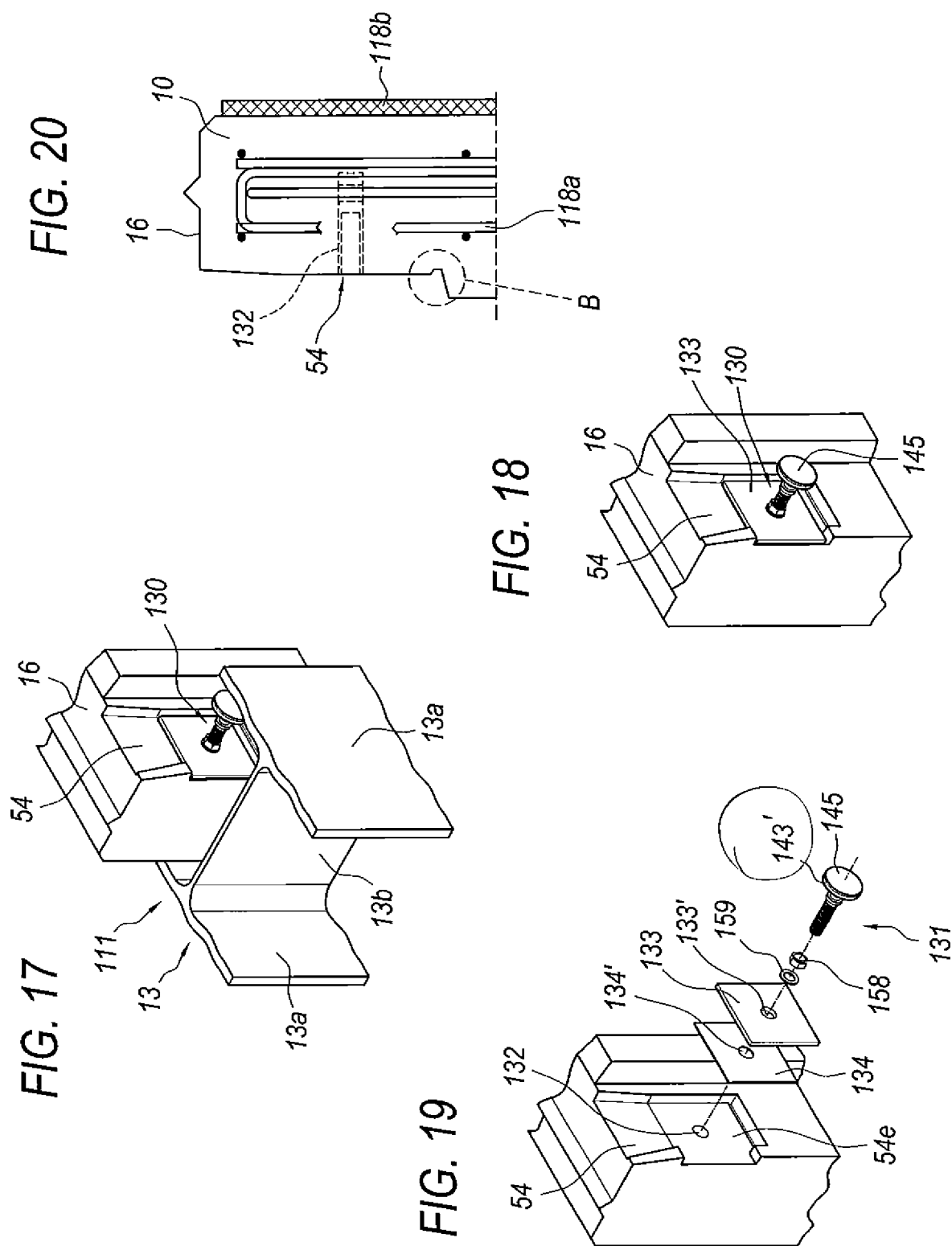
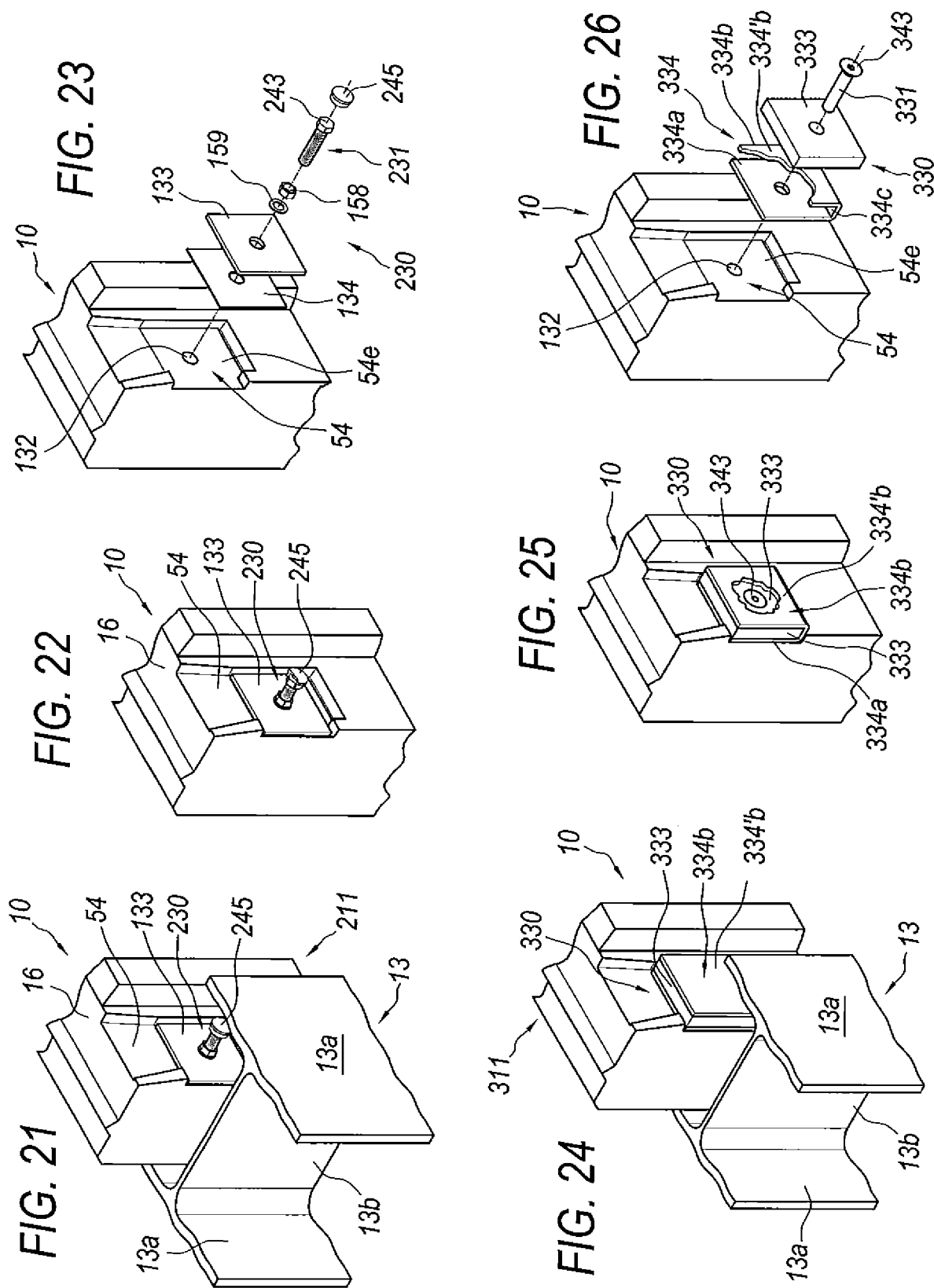


FIG. 16







REFERENCES CITED IN THE DESCRIPTION

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