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(54) **Mount for pipe fitting**

(57) A mount (1) for mounting a sanitary pipe fitting, mixing fitting, or mixer tap on an external side of a surface of a building structure, the mount (1) being anchorable to the building structure, said mount (1) comprising

- a plate-shaped element (10, 16) defining a plane (P) and having a perimeter (11);
- a first connecting piece (20) extending from a first side (12) of said plate-shaped element (10, 16), said first connecting piece being connectable to a sanitary pipe fitting, mixing fitting, or mixer tap ();
- a second connection means (30) formed on a second side (13) of said plate-shaped element (10) opposite said

first side (12), said second connection piece (30) being adapted for connecting to a water carrying piping (); and

- first anchoring means (40) formed on or in said plate-shaped element (10) for anchoring said mount (1) to elements of the building structure,

wherein said first connection piece (20) and said second connection means (30) communicate through said plate-shaped element (10) and wherein said plate-shaped element (10) is adapted for stably supporting cover elements () such as tiles on said first side (12) of the mount.

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Description

[0001] The present invention relates to a mount for sanitary pipe fittings, mixing fittings, or mixer taps. More specifically, the present invention relates to a mount for mounting a pipe fitting on a surface of the type where the mount is incorporated in a building structure such as a wall, and the pipe fitting is located on an external side of the building structure.

Background of the invention

[0002] Mounts of the above mentioned kind are known in the art. Typically such mounts are build into a building structure such as a wall, by forming a hole in the building structure and anchoring the mount within the building structure, e.g. to beams hidden within the building structure, or by immuring the mount. The mount serves the dual purposes securing the pipe fittings, mixing fittings, or mixer taps in a desired position on the building structure, and connecting the pipe fittings, mixing fittings, or mixer taps to a piping hidden in the building structure, such as hot and cold water piping.

[0003] A type of mount known in the art is a so-called coupling constituted by a small plastic box, having a side opening to one side of box intended to face the external side of the building structure and part intended to be concealed within the building structure. The latter has means, e.g. an internally threaded connecting piece, for connecting the coupling to the piping extending hidden within the building structure to the hole made in the building structure. The former has means, e.g. an externally threaded connecting piece, for connecting the coupling to the pipe fitting, mixing fitting, or mixer tap, the connecting piece extending towards the opening in the box. In order to provide a specific distance between e.g. a hot and cold water piping connection two such coupling may be joined parallelly by an interconnecting flange.

[0004] Such types of couplings are typically anchored by screwing or nailing the coupling to a beam or post or to masonry of the building structure. Subsequently the hole including the coupling is filled with mortar or cement, to level the hole with the surface of the building structure, such that the connecting piece(s) emerges from the surface to allow for mounting of the pipe fitting, mixing fitting, or mixer tap.

[0005] The surface surrounding the embedded coupling may then be covered by a water impenetrable barrier, such as a rubber mass coating, to prevent moisture from entering into the building structure via the thus provided pipe connection. Usually, if the building structure is e.g. a wall of a sanitary room/wet-room, the wall may be covered with tiles.

[0006] DE 197 15 651 A1 describes a sanitary mount being connectable to a holed elongate piece of metal, the piece of metal being pent to anchor the sanitary mount in a hole of a wall. Subsequent to anchoring the mount in the hole formed in the wall, the hole must be filled with

a mortar or cement in order to provide a planar surface on which to form a moisture barrier and/or e.g. a tile wall cover.

[0007] The above mentioned prior art mounts suffer from a number of deficiencies. Firstly, they do not by themselves support a covering of the hole in the wall in which they are anchored, such a covering e.g. being a tile covering. The craftsmen need to wait until the cement in the hole will dry up, preferably days or weeks depending on climate conditions in the surroundings. Since such construction activities are often made under considerable time pressure, such a wait is often highly disadvantageous. Often the drying time is not respected, and consequently there is a risk of the formation of fungus in the enclosed wet cement.

[0008] Another disadvantage is that is difficult to make a watertight connection around the connection pieces exiting the wall. Therefore, during use, water may pass, along the connection pieces and into the wall structure. Also, there is a risk that the connection on the back side of the mount to the water piping is not made properly, such that it may leak, which of course is a problem when the mount has been embedded in cement. Such leaks are common, and lead to moisture related problems such as miscolouring of the wall structure, and fungus formation.

[0009] A further disadvantage of the prior art mounts is that once the mount is in place (mounted) and the cement has dried it takes considerable, and destructive effort to access the piping hidden in the wall structure, thus making it difficult to make repairs to the piping and connections, and even to change a mixer, connected on the outside of the mount and wall. After some time such a mixer or other external piping, tubing and the connection pieces will corrode a little and be very difficult to separate. The separation will often take a considerable amount of strength from the craftsman, and the procedure often forms damages to the cement structure, moisture barrier etc. thereby increasing the risk of leaks.

[0010] Hence, an improved mount overcoming the above described and other disadvantages would be advantageous

Object of the invention

[0011] It is an object of the invention to provide a mount overcoming the above mentioned problems of the prior art. It is a further object of the invention to provide a stable surface for a moisture barrier and/or a protective and/or decorative surface covering such as tiles for wall or floor. It is a further object of the invention to provide a mount that improves leakage properties in water installations. It is yet another object of the invention to provide a mount allowing easier access to repairs and replacement of piping and connections hidden in a building structure. It is a further object of the present invention to provide an alternative to the prior art mounts.

Summary of the invention

[0012] Thus, the above described object and several other objects are intended to be obtained in a first aspect of the invention by providing a mount for mounting a sanitary pipe fitting, mixing fitting, or mixer tap on an external side of a surface of a building structure, the mount being anchorable to the building structure, said mount comprising a plate-shaped element defining a plane and having a perimeter; a first connecting piece extending from a first side of said plate-shaped element, said first connecting piece being connectable to a sanitary pipe fitting, mixing fitting, or mixer tap; a second connection means formed on a second side of said plate-shaped element opposite said first side, said second connection piece being adapted for connecting to a water carrying piping; and first anchoring means formed on or in said plate-shaped element for anchoring said mount to elements of the building structure, wherein said first connection piece and said second connection means communicate through said plate-shaped element and wherein said plate-shaped element is adapted for stably supporting cover elements such as tiles on said first side of the mount. Further advantageous embodiments are achieved as stated in dependent claims 2-13.

[0013] These and other aspects of the invention will be apparent from and elucidated with reference to the embodiments described hereinafter.

Brief description of the figures

[0014] The mount according to the invention will now be described in more detail with regard to the accompanying figures. The figures show one way of implementing the present invention and is not to be construed as being limiting to other possible embodiments falling within the scope of the attached claim set.

- Figure 1A in a front view, shows a frame of a mount according to one embodiment of the invention;
- Figure 1B shows section B-B in Fig. 1A;
- Figure 1C shows section C-C in Fig. 1A;
- Fig 2A and B show a front view and side view, respectively, of a mount according to another aspect of the invention or a door part of a mount to cooperate e.g. with a frame as shown in Fig. 1;
- Figure 3A and B show a front view and side view, respectively, of a mount or a door part of a mount according to yet another embodiment of the invention;
- Figure 4A and B show a front view and side view, respectively, of a mount or a door part of a mount according to yet another embodiment of the invention;
- Figure 5A and B show a front view and side view, respectively, of a mount or a door part of a mount according to yet another embodiment of the invention; and

- Figure 6, in a perspective view, shows a back side of mount as shown in Fig. 6.

Detailed description of embodiments of the invention

[0015] In one embodiment of the invention, and as shown in Fig. 2A and B, a mount according to the invention may comprise a plate-shaped element designated by the reference number 10. The plate-shaped element 10 defines a plane, P, and has a perimeter 11. In the plate shaped element 10 a first connecting piece 20 extends from a first side 12. The first connecting piece is connectable a sanitary pipe fitting, mixing fitting, or mixer tap (not shown), e.g. as shown by an outer threading of the connecting piece, or by any other suitable means known to the person skilled in the art. Often a $\frac{3}{4}$ " connecting piece is used for mounting such sanitary pipe fitting, mixing fitting, or mixer tap. Consequently, the connecting piece may be a threaded $\frac{3}{4}$ " connecting piece. In other embodiments, however, the connecting piece may have other dimensions e.g. $\frac{1}{2}$ " or other. In the plate shaped element 10 a second connection means 30 is formed in a second side 13 opposite said first side 12, such that it extends from the second side 13, e.g. - and as shown, in the form of a connecting piece. The second connection means 30 is adapted for connecting to a water carrying piping (not shown), e.g. by an outer threading. Often a $\frac{1}{2}$ " connecting piece is used for mounting such sanitary water carrying piping, but other dimensions may be applied as well. In the Fig. 2 embodiment, the first connecting piece 20 and the second connecting means 30 are of the same dimension, e.g. $\frac{1}{2}$ " or $\frac{3}{4}$ ". In The Fig. 3 embodiment the first connecting piece 20 and the second connecting means 30 are of different dimensions, e.g. the first connecting piece 20 is $\frac{3}{4}$ " and the second connecting means 30 is $\frac{1}{2}$ ".

[0016] The first connection piece 20 and the second connection means 30 communicate through said plate-shaped element 10 to allow the passage of water, or e.g. a tubing through said plate-shaped element.

[0017] In the plate shaped element 10 a series of first anchoring means (40) are formed, in the form of through going holes. The holes are adapted to receive secondary anchoring means in the form of screws or spikes, nails. The mount is intended to be secured to elements of a building structure. Typically a sanitary water connection is formed by providing a hole in, e.g. a wall, that may for instance be a brick wall or it may be wooden or metal beam structure covered by e.g. gypsum plates. The mount according to the invention is fixed/secured/anchored to elements of the building structure e.g. bricks or beams accessed via the above mentioned hole, e.g. by screwing or any other manner ordinary in the art.

[0018] The plate-shaped element is large enough to cover the hole formed in the building structure, e.g. the wall. Thus, when the mount is anchored to the hole formed in the wall such that the first surface 12, or plane

P is substantially flush with the plane of the building structure, wall, the first side of the plate-shaped element 10 forms a stable foundation for forming a moisture barrier, and/or a wall finish such as a plaster or tiling.

[0019] Alternatively, the anchoring means may be formed as fixed structures, such as spikes extending from the back or second side 13 of the plate shaped element 10. However, the anchoring means are preferably of a type that can be loosened from the first side 12, such as screws, in order to allow the plate shaped element to be dismantled, in order to make maintenance of the water connections hidden by the mount.

[0020] The water piping (which is usually hidden in the building structure/wall) must be mounted to the second connecting means 30 prior to anchoring the plate shaped element 10 to the building structure/wall.

[0021] In order to cover the hole formed in the building structure (which must be large enough to allow handling of the concealed water piping), and to form a stable support for moisture barrier etc., the plate must extend at least 5 cm or more from the first connection piece, such as 6, 7, 10, 15 or 20 cm from the first connection piece. The plate shaped element may be square, rectangular, round or irregularly shaped. The plate shaped element may not necessarily form a closed plane, but may have openings, e.g. a perforation, provided that the openings are small enough, e.g. below 2 cm, in order to provide a stable foundation for e.g. tiles or other.

[0022] In another embodiment the, and as shown in Fig. 4A and B, the second connecting means 30 may simply be a hole formed in the plate shaped element 10. Thus a flexible piece of tubing 60 may be led through the hole and fixed to the mount at the external side thereof. The flexible tubing, being a part of the water piping hidden in the wall/building structure may e.g. be a PEX tubing. Thereby the a connection to the water piping may be accomplished, that is completely devoid of connections within the building structure, thus minimizing the risk of leaks within the building structure. The flexible tubing 60 may be connected to the first connection piece 20 by a cutting ring 70 and a nut 80 holding the cutting ring 70, the nut 80 having e.g. an external threading corresponding to an internal threading formed in the first connection piece 20. The first connection piece may have outer threading as well, in order to allow connection to a mixer or the like.

[0023] In all of the previously described embodiments only a single set of first connection piece 20 and second connection means 30 has been described. However, in a preferred embodiment the plate shaped element may comprise two set of corresponding first connection piece 20 and second connection means 30, as shown in Fig. 5A and B. The shown embodiment has a smaller dimension on a connection piece forming the second connecting means 30 and one larger dimension on the first connecting pieces 20. However, the connections may comprise any of the above described second connection means 30 and connection pieces 20 or combinations

thereof. The shown two connection is suitable for hot and cold water connection to e.g. a mixer. In other embodiments (not shown) additional connections may be provided, e.g. for more sets of mixers or for an additional specialized hot or cold water tap. Additionally, the mount may comprise a connection for a drain as well (not shown).

[0024] In a preferred embodiment, and as shown in Fig 1A-C and in Fig. 6 the mount may comprise a frame 15 and door part 16, the door part 16 and the frame part 15 together defining said plate shaped member 10. The plate shaped members 10 described above in relation to figures 2-5 may all be example of door parts 16 to be used with a frame part 15 as shown in figures 1 and 6. Therefore in Figs. 2-5, the plate shaped member/door-part has been equipped with a dual reference numbering of 10 and 16. In the Fig 1 and 6 embodiment the first anchoring means 49 are preferably provided in the frame part 15. The outer periphery of the door part 16 is provided with holes 41 adapted to correspond with holes 42 formed in connection with an inner periphery of the frame part 15. Thus the frame part 15 and the door part 16 may be releasably fixed to each other e.g. by screws, or other suitable connection means. This mount may be used as described with the fig. 2-5 embodiments, however with the difference that an even easier access to the hole in the building structure may be achieved, because access can be provided by removing the door part rather than unscrewing the entire mount from its fixture to the building structure.

[0025] As may be appreciated from e.g. fig. 1B a perimeter of the door part 16, may rest on a flange 17 of the frame part 15 such that the outer surface/side 12 of the combined frame part and door part is substantially flush.

[0026] As shown in figs 1C and fig. 6, a fitting 50 may be formed on the back, second side 13 of the mount 1 in order to hold and direct e.g. flexible tubing. Such a fitting may also be provided on the simpler embodiments of the mount shown in Fig. 2-5 and described above.

[0027] The plate shaped element 10 in either of the above embodiments may be formed in a metal, e.g. steel, such as stainless steel. Preferably however the plate-shaped element 10 is formed in plastic. The first connecting piece and the second connecting means are preferably formed integrally with the plate-shaped member or the door part 16.

[0028] Although the present invention has been described in connection with the specified embodiments, it should not be construed as being in any way limited to the presented examples. The scope of the present invention is set out by the accompanying claim set. In the context of the claims, the terms "comprising" or "comprises" do not exclude other possible elements or steps. Also, the mentioning of references such as "a" or "an" etc. should not be construed as excluding a plurality. The use of reference signs in the claims with respect to elements indicated in the figures shall also not be construed

as limiting the scope of the invention. Furthermore, individual features mentioned in different claims, may possibly be advantageously combined, and the mentioning of these features in different claims does not exclude that a combination of features is not possible and advantageous.

Claims

1. A mount (1) for mounting a sanitary pipe fitting, mixing fitting, or mixer tap on an external side of a surface of a building structure, the mount (1) being anchorable to the building structure, said mount (1) comprising

- a plate-shaped element (10, 16) defining a plane (P) and having a perimeter (11);
- a first connecting piece (20) extending from a first side (12) of said plate-shaped element (10, 16), said first connecting piece being connectable to a sanitary pipe fitting, mixing fitting, or mixer tap ();
- a second connection means (30) formed on a second side (13) of said plate-shaped element (10) opposite said first side (12), said second connection piece (30) being adapted for connecting to a water carrying piping (); and
- first anchoring means (40) formed on or in said plate-shaped element (10) for anchoring said mount (1) to elements of the building structure,

wherein said first connection piece (20) and said second connection means (30) communicate through said plate-shaped element (10) and wherein said plate-shaped element (10) is adapted for stably supporting cover elements (1) such as tiles on said first side (12) of the mount.

2. A mount (1) according to claim 1, wherein the perimeter of the plate-shaped element extends 5 cm or more in a plane (P) defined by the plate-shaped element (10, 16) from said first connection piece (20).
3. A mount (1) according to claim 1 or 2, wherein the first anchoring means (40) are located in a distance of 5 cm or more from said first connection piece (20).
4. A mount (1) according to any one of claim 1-3, wherein a set of first anchoring means (40) formed on or in said plate-shaped element (10, 16) for anchoring said mount to elements of the building structure are formed along said perimeter (11) of the plate-shaped element (10, 16).
5. A mount (1) according to any of the preceding claims, wherein said first anchoring means (40) formed on or in said plate-shaped element (10, 16) are holes

through said plate shaped element (10, 16'), adapted for receiving second anchoring means.

6. A mount (1) according to claim 5, wherein said second anchoring means are screws.
7. A mount (1) according to any of the preceding claims, wherein said first connection piece (20) is integrally formed with said plate-shaped element (10, 16).
8. A mount (1) according to any of the preceding claims, wherein said second connection means (30) are integrally formed with said plate-shaped element.
9. A mount (1) according to any of the preceding claims, wherein said plate-shaped element (10, 16) is formed in plastic.
10. A mount (1) according to any of the preceding claims, wherein said plate-shaped element (10, 16) is sectioned into a frame part (15) and a door-part (16), said first connection piece (20) and said second connection means (30) being provided on said door part (16), and said first anchoring means (40) being provided on/in said frame part (15).
11. A mount (1) according to any of the preceding claims, wherein said second connection means (30) is a hole in communicating with said first connection piece (20) through said plate shaped element (10, 16).
12. A mount (1) according to claim 11, comprising a fitting (50) on said second side (13) of the plate-shaped element (10, 16) for receiving and fixating a flexible piping (60), such as PEX tubing, to said plate shaped element (10, 16).
13. A mount (1) according to any of the preceding claims, comprising two sets of first connection means (20) communicating with second connection means (30), respectively.

FIG. 1A

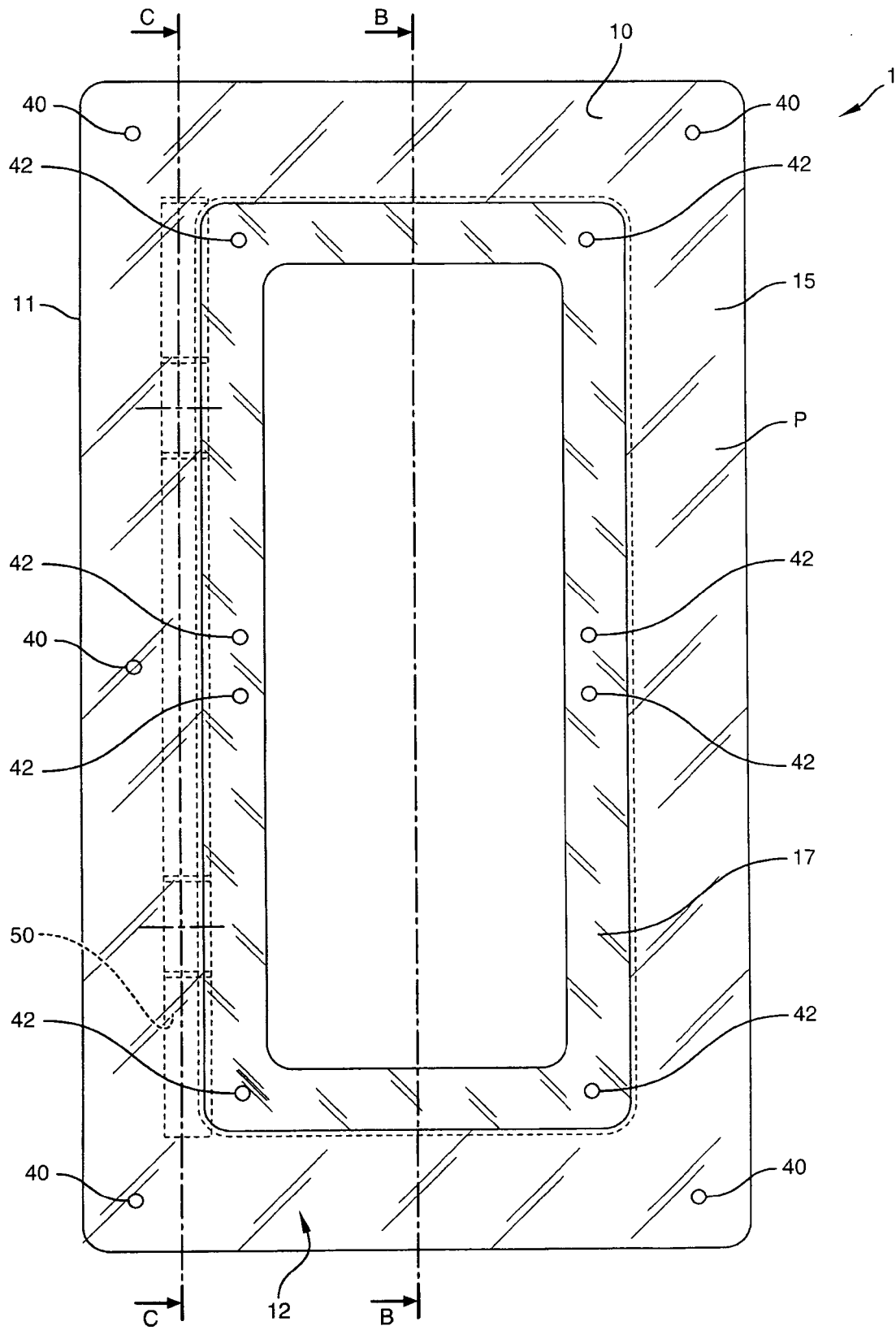


FIG. 1B

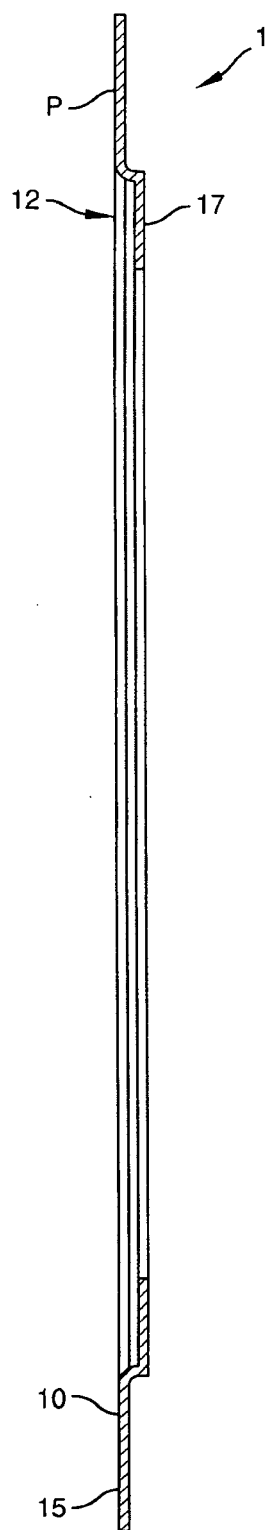


FIG. 1C

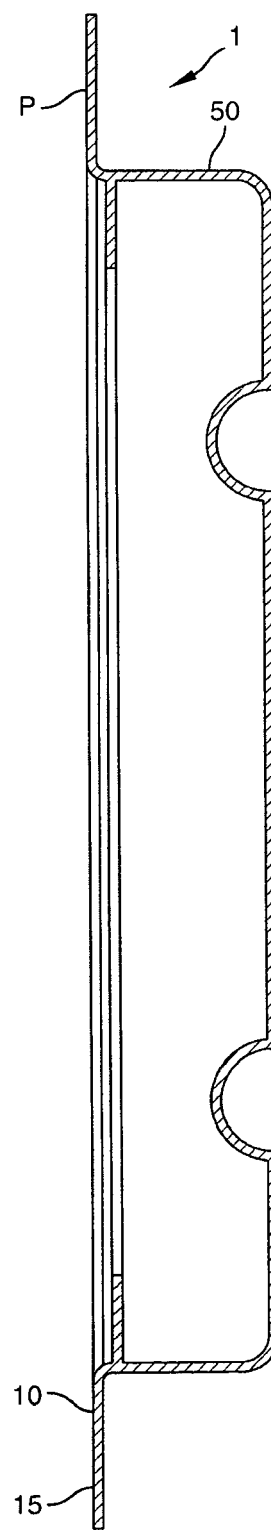


FIG. 2A

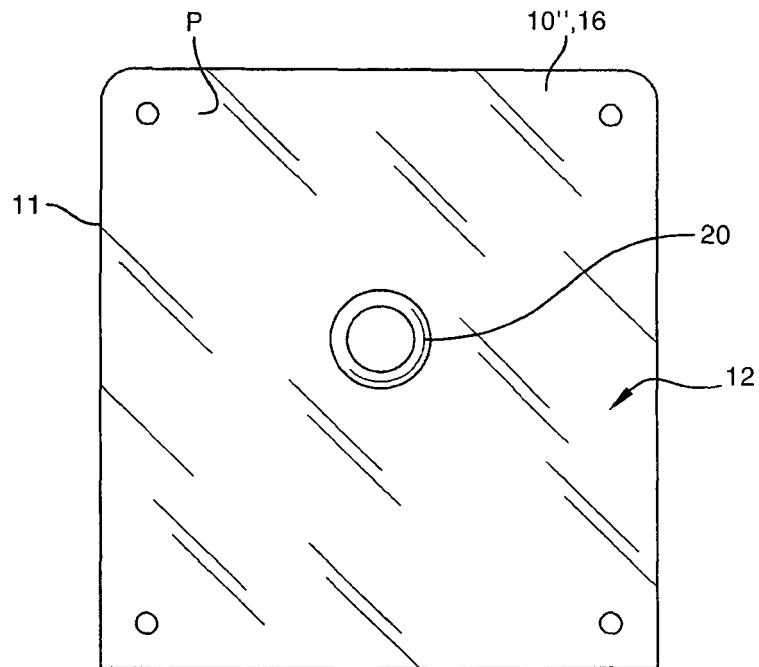


FIG. 2B

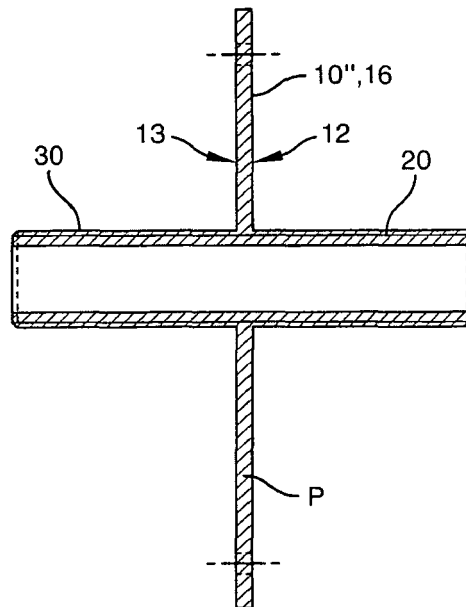


FIG. 3A

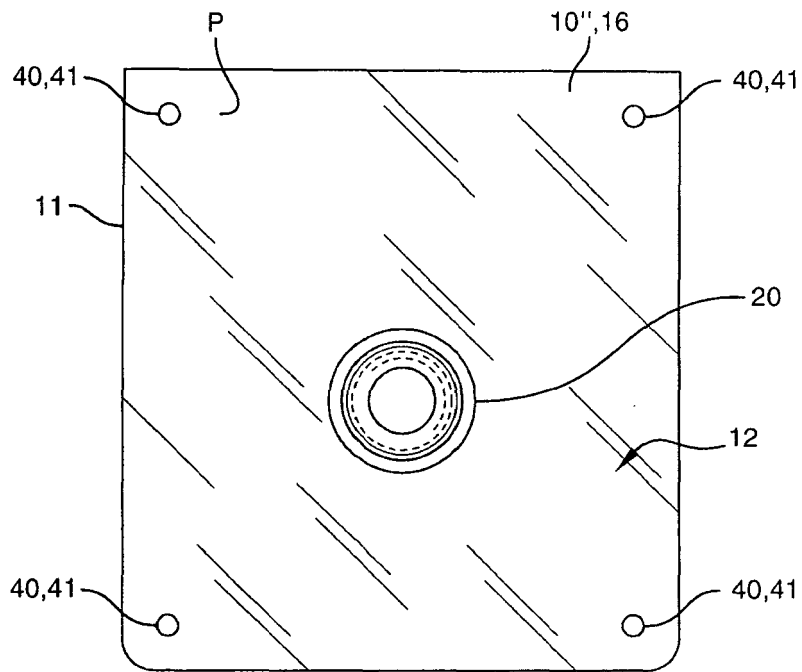


FIG. 3B

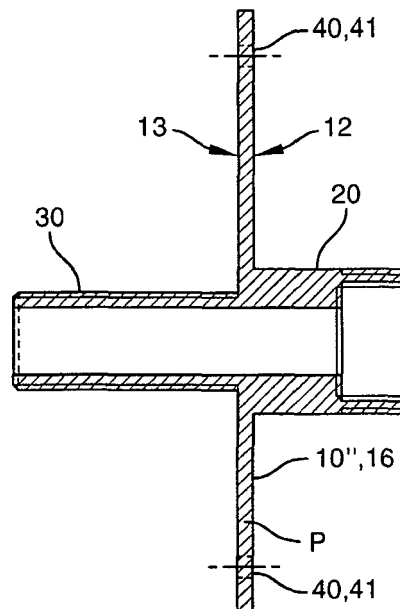


FIG. 4A

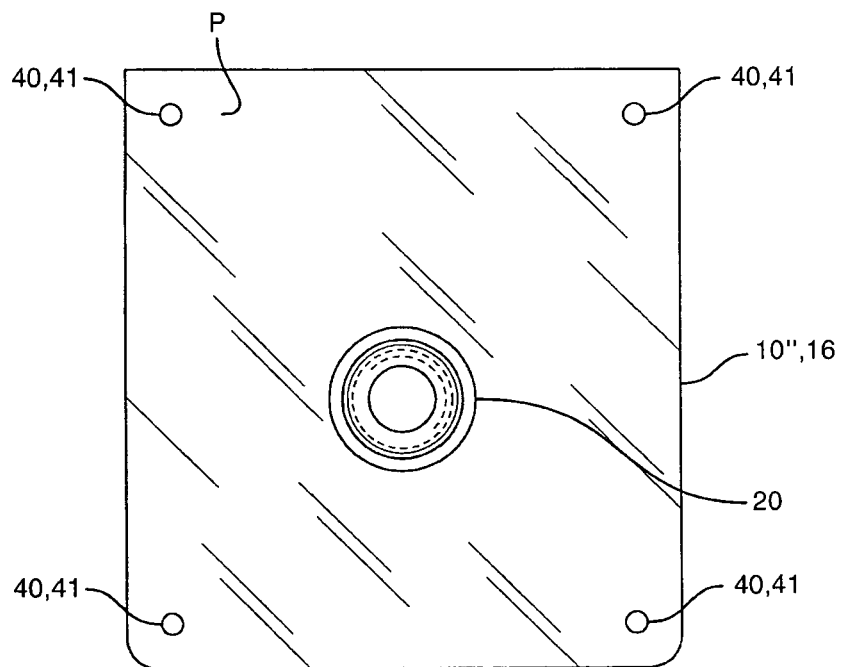


FIG. 4B

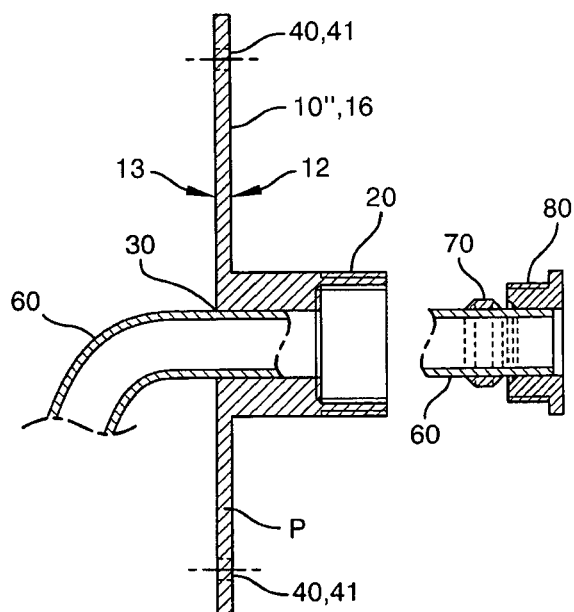


FIG. 5A

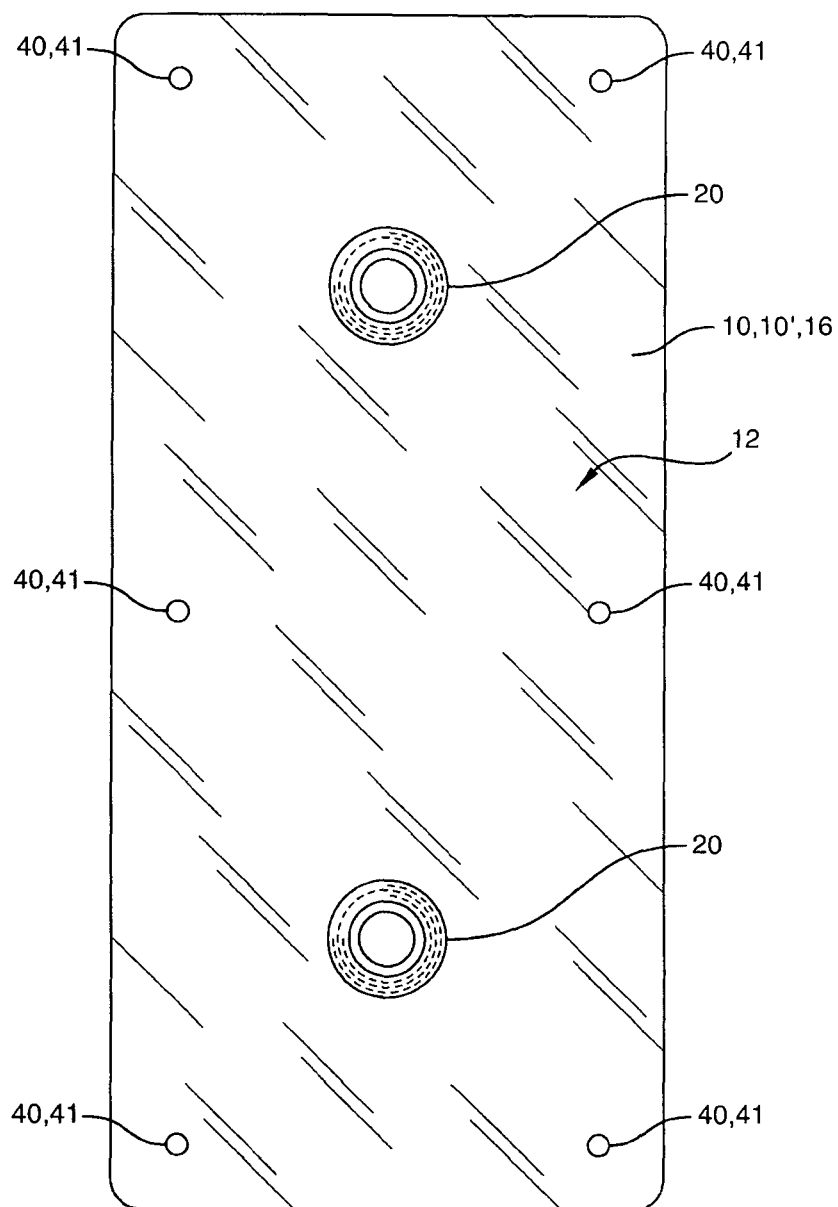


FIG. 5B

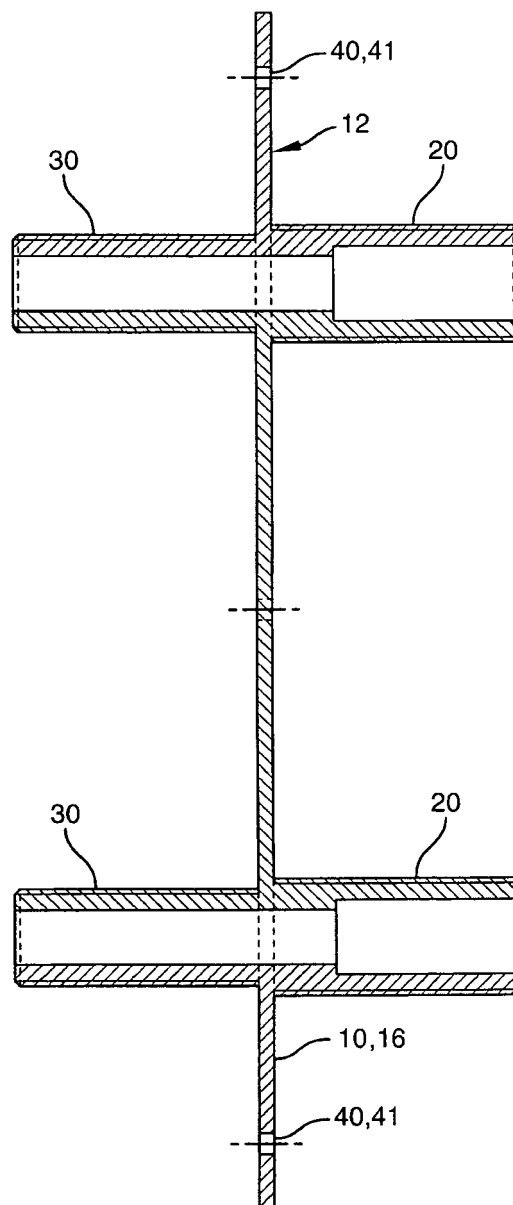
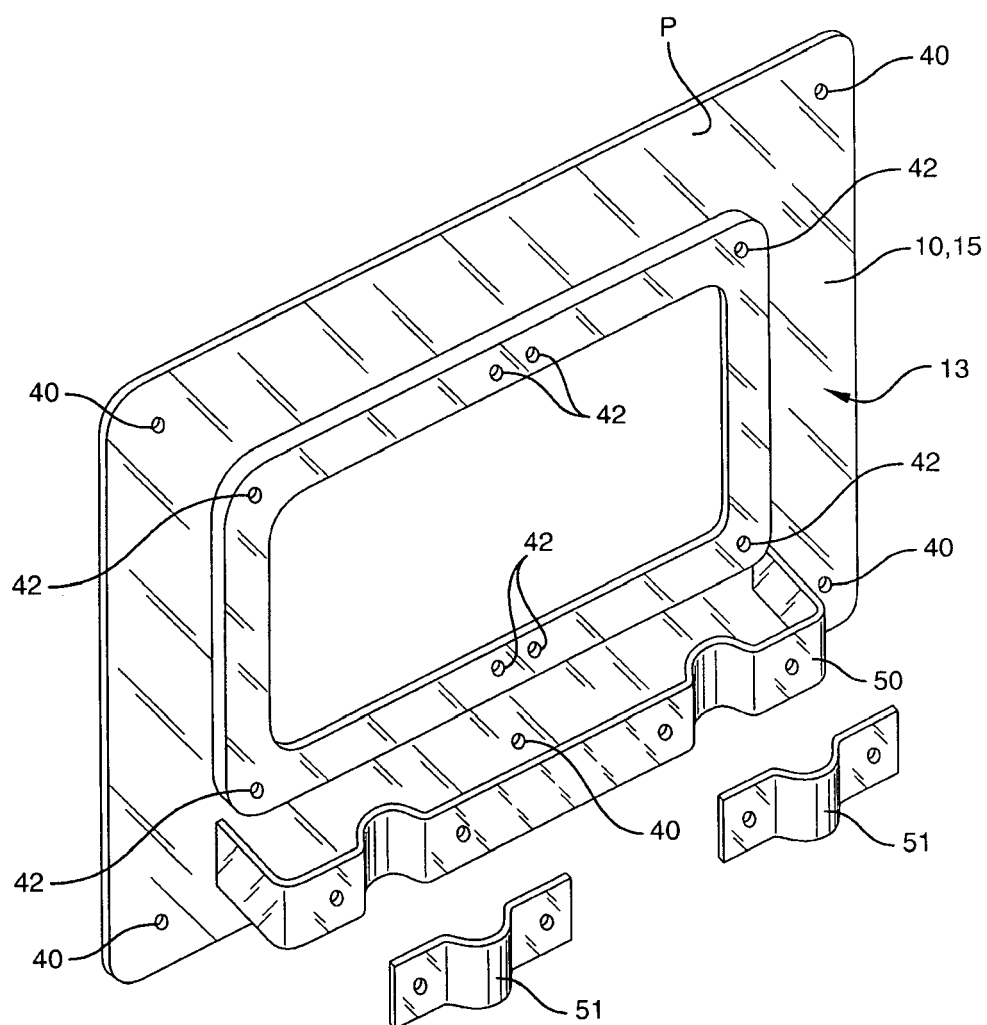


FIG. 6





European Patent
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EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims			
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