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(54) **RECESSED FRAME FOR SECURING TOILET ELEMENTS, METHOD FOR MANUFACTURING AND USE OF SAID FRAME**

EINBAURAHMEN ZUR FIXIERUNG VON TOILETTENELEMENTEN,
HERSTELLUNGSVERFAHREN UND VERWENDUNG DES BESAGTEN RAHMENS

CHÂSSIS ENCASTRABLE DESTINÉ À FIXER DES ÉLÉMENTS SANITAIRES, PROCÉDÉ DE
FABRICATION ET UTILISATION DUDIT CHÂSSIS

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(56) References cited:

EP-A1- 0 343 071	EP-A1- 0 826 837
EP-A1- 2 204 510	EP-A2- 0 646 678
EP-A2- 0 646 678	EP-A2- 1 990 474
WO-A1-2009/017391	CH-A- 440 154
DE-A1- 10 331 641	DE-U1- 29 606 529
US-A- 3 278 950	US-A- 3 611 451
US-A- 3 686 695	US-A- 3 790 967
US-A- 3 790 967	

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EP 2 740 849 B1

Description

Object of the invention

[0001] The present invention relates to a recessed frame according to the preamble of claim 1 for clamping of sanitary elements having as an essential object to achieve a simple structure, made of one single material which reduces the cost of the frame and on which the sanitary elements are installed.

[0002] Based on this premise, the frame of the invention is intended to facilitate the mounting of sanitary appliances with an element of easy handling and assembly, on which are mounted the sanitary appliances in a simple way and with a pleasant aesthetic result.

[0003] The frame is designed to incorporate in a single piece and made of the same material, most of the elements that compose it, i.e. it is designed as a one-piece structure.

[0004] The invention further relates to a manufacturing process and the use of such a recessed frame.

Background of the invention

[0005] Currently the use of frames that may be recessed in the construction of bathrooms has developed rapidly due to the simplification and the good finish of construction that is achieved with their use.

[0006] There are different frames that may be recessed in the wall and that provide functionality and a good finish in the installation of sanitary appliances during the construction of bathrooms.

[0007] The frames currently in the market consist of a combination of metal elements, plastic elements and rubber parts, requiring a stage of assembly to be necessary prior to the installation of these frames, what complicates and makes more expensive the frame and consequently the installation of sanitary appliances with this system of frames.

[0008] The document EP0646678 discloses prefabricated sanitary construction elements for attaching sanitary installations to the room wall are intended to form an aesthetically pleasing cladding and to be of a dimensionally and positionally stable design. Instead of a frame structure, use is made, according to the invention, of a three-dimensional structure which is produced from a foamed plastic, with inserted reinforcements and cavities made therein, and can be clamped on the room wall by means of anchor screws such that no buckling can take place; a specially designed spacer sleeve is provided for this purpose.

[0009] The document EP0826837 discloses a module consists of a formed body of insulating material and contains plumbing components. The body consists of two or more shell elements which are adapted to the shape of the components and are sound-insulating. The elements are fitted together tightly to enclose the components. The shell elements are connected especially waterproof to

each other via frictionally-engaging tongue-and-groove parts, and may form plumbing components, especially water-containing parts. The formed body consists of several layers of different characteristics, e.g. density, strength, sound absorption, fire-proofing. The front is formed so that it can be tiled.

[0010] The document US3278950 discloses a mounting device for a wall hung plumbing fixture, comprising a carrier, means attached to said carrier supporting said plumbing fixture therefrom, means supporting said carrier on upright frame members, the last said means comprising a pair of bracket assemblies, each of said bracket assemblies comprising a pair of mounting clips and a template.

Description of the invention

[0011] To avoid the above drawbacks and to achieve the objectives set out above, the invention consists of a recessed frame for clamping of sanitary elements comprising a box of actuation mechanisms, an intermediate water tank and a lower structure for supporting and mounting the toilet, the three elements mentioned above make up a single one-piece part.

[0012] In the one-piece part, the lower structure integrates a central crossbeam in which two inclined crossbeams and one exhaust duct which leads into a central area of the central crossbeam flanked by the terminal sections of the inclined crossbeams converge.

[0013] Jointly to the central crossbeam and at its bottom there is a bridge, this bridge consisting of one single piece, and associated with the bridge we find a flange that is adaptable to any diameter of a drain pipe of the sanitary element, attaching the drain pipe through the bridge and flange assembly.

[0014] For the support of the frame on the floor, the lower supporting and mounting structure of the toilet incorporates legs which in turn incorporate a height adjustment mechanism.

[0015] The height adjustment mechanism of the legs comprises runners coaxial with the legs that have two possible embodiments:

- in the first embodiment, the coaxial runners slide through the inside of the legs and are fixed through a threaded element being threaded on a hole located in the legs, such threaded element being secured through a nut located inside of the coaxial runners.
- in the second embodiment, the coaxial runners are threaded rods that are introduced by the lower part of the legs through an insert that has an internal thread where the rod is threaded so that the height adjustment occurs through the rotation of the rod. In this embodiment in the lower end of the rod there is a flat element for support on the floor.

[0016] The upper part of the block, the part of the mechanisms box, has blunt edges, i.e. it has rounded corners

to prevent sharp edges and sharp corners.

[0017] The frame includes a discharging device that has a part in the area of the mechanisms box and another one in the area of the water tank since the discharging device allows the emptying of the water from the tank.

[0018] The water tank has at least one inlet and at least one water outlet, which is linked to the water exhaust duct through which the water tank is emptied during the use of the sanitary appliance.

[0019] The one-piece part that configures the frame is manufactured in any mouldable material preferably plastic, zamac, aluminium, etc; also the manufacture of the one-piece part is carried out by the technique of rotational moulding or else by the technique of injection of the material to be shaped.

[0020] In a not claimed embodiment of the invention the top elements of the frame (the water tank and the box of actuation mechanisms) are removed, resulting in a frame for mounting of sanitary appliances, wash basins and bidets, comprising one single lower supporting and mounting structure of the toilet, which integrates a central crossbeam wherein two inclined crossbeams converge, a bridge formed by one single piece associated with a flange to adapt it to any diameter of a drain pipe, said drain pipe being attached through the bridge and flange assembly. Said embodiment also includes either of two configurations that are arranged for the height adjustment mechanism of the legs. Moreover, it entails significant savings in materials and costs.

Description of the figures

[0021] To complete the description and to help to a better understanding of the features of the invention, this specification is accompanied, as an integral part of it, by a set of drawings where with illustrative character and without limitation, the following has been represented:

Figure 1 shows a perspective view of the frame object of the invention.

Figure 2 shows a perspective view of the frame with the elements that are added to configure the final element for mounting toilets. Said view includes a detail on one leg of a possible embodiment of the leg height adjustment system.

Figure 3 shows a front view of the same element referred to in figure 1 with the added elements to the final configuration for toilet assembly. In this figure we find one of the legs sectioned, showing the other embodiment of the leg height adjustment system, including the coaxial runner that is part of said embodiment of the height adjustment mechanism.

Figure 4 shows a front view of a not claimed frame designed for mounting wash basins and bidets.

[0022] The numeric references that are reflected in the figures correspond to the following elements:

- 1.- block;
- 2.- mechanisms box;
- 3.- tank;
- 4.- lower structure
- 5 5.- exhaust duct;
- 6.- bridge;
- 7.- flange;
- 8.- threaded cylindrical parts;
- 9.- anchors;
- 10 10.- crossbeams;
- 10'.-central crossbeam;
- 11.- legs;
- 12.- partition wall;
- 13.- inserts;
- 15 14.- height adjustment;
- 15.- blunt edges;
- 16.- discharging device;
- 17.- flat part;
- 18.- threaded rods;
- 20 19.- coaxial runners;
- 20.- stop;
- 21.- threaded element;
- 22.- outlet;
- 23.- hole;
- 25 24.- slot;
- 25.- nut,
- 26.- insert,
- 27.- threaded rod,
- 28.- flat element.

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Description of a preferred embodiment

[0023] The invention is intended to facilitate the mounting of sanitary appliances with an element of easy handling and assembly, with which the sanitary appliances are assembled in a simple way and with a pleasant aesthetic result.

[0024] The frame is designed to include in one single piece and made of the same material, all the elements that compose it, i.e. it is designed as a one-piece structure.

[0025] The frame is designed to facilitate the installation of a toilet in the preferred embodiment of the invention. In this embodiment the frame comprises two main parts that include all the elements that provide it with the subsequent functionality, said parts are the block (1), which consists of a box of actuation mechanisms (2) together with a water tank (3), and a lower structure (4) for supporting and mounting the toilet.

[0026] In the design of the preferred embodiment of the invention the block (1) is located at the upper part of the frame comprising the box of actuation mechanisms (2) and the water tank (3), and it is important to note that at the top, the frame has blunt edges (15), and the sides have been softened to prevent the presence of sharp edges and sharp areas. And finally, located between the block (1) and the pavement, we find the lower structure (4) for supporting and mounting the sanitary element.

[0027] The water tank (3) is a compartment comprising four walls and a floor with a water inlet to fill the tank (3) and, at the bottom of the tank (3) we find a water outlet (22) that connects to the exhaust duct (5) of the water that facilitates the emptying of the tank (3). Within the water tank (3), connecting with the mechanisms box (2) we find a discharging device (16) that allows the emptying of the water tank (3) during the use of the toilet.

[0028] Between the water tank (3) and the floor there is a lower structure (4) for supporting and mounting the toilet, comprising legs (11) that include a height adjustment system (14) of the frame and located between the two legs (11) there is a connection central crossbeam (10') that adds rigidity to the legs (11) together with inclined crossbeams (10) joining the legs (11) by their highest part with the crossbeam (10').

[0029] For the inner separation of the tank (3) and the legs (11) the frame has a partition wall (12) located in the highest area of the lower structure (4) for supporting and mounting the toilet, which prevents the internal flood of the legs (11).

[0030] The lower structure (4) for supporting and mounting the toilet is completely configured by the water exhaust duct (5) extending from the water tank (3) by its bottom and is joined in the middle of the central crossbeam (10'), joining in this way the aforementioned central crossbeam (10') with the water tank (3). At the bottom of the water exhaust duct (5), next to the central crossbeam (10') the installation conventional ducts are connected.

[0031] Attached to the central crossbeam (10') we find the means for mounting the sanitary element, consisting of two horizontal threaded cylindrical parts (8) which are inserted into the central crossbeam (10') and wherein the sanitary appliance is placed.

[0032] At the bottom of the central crossbeam (10') there is a structure that provides stability to the toilet drain pipe. The structure comprises a single piece bridge (6) and a flange (7) that adapts to any variation of the diameter of the tube configured by the drain pipe.

[0033] For the fixation of the frame to the wall there are, inserted into the corners of the top of the one-piece part of the frame, threaded rods (18) joined to flat pieces (17) for attachment to the wall. The threaded rods (18) together with the flat pieces (17) configure the anchors (9) to the wall.

[0034] To adjust the height of the frame, the legs (11) have a height adjustment mechanism (14) which has two possible configurations:

- the first configuration, comprises inner metal coaxial runners (19) in each leg (11) with the same shape of the legs (11), said coaxial runners (19) have, at the bottom, seat stops (20), that prevent the coaxial runner (19) from getting into the leg (11). Likewise, the coaxial runners (19) also have a slot (24) along each coaxial runner (19) matching the inner area of the frame. The coaxial runner (19) is placed in the desired position and by an inner hole (23) of the leg

(11) a threaded element (21) is introduced setting the relative position of the coaxial runner (19) with the leg (11) through a nut (25) located in the interior of the coaxial runner (19), since the threaded element (21) presses on the leg (11) and the nut (25); the second configuration, comprises inner metal coaxial runners (19) in each leg (11), said coaxial runners (19) are formed by threaded rods (27) in the lower part of which are located supporting flat elements (28), that in addition to preventing the coaxial runner (19) from getting into the leg (11), are used to provide a strong support of the frame on the floor. Likewise, the height adjustment mechanism (14) has an insert (26), with inside thread, located on the inside of the bottom of the legs (11) for threading the threaded rod (27), allowing, by turning the threaded rod (27), to adjust the relative position of the threaded rod (27) with respect to the leg (11) and therefore fixing the height of the frame with respect to the floor.

[0035] The frame includes inserts (13) that generate threaded holes for the installation of the frame with supports on walls consisting of gypsum plasterboards ("Pladur-type walls).

[0036] The frame can be used to hold any sanitary element with the inclusion or exclusion of the elements comprising the frame that are not required, so except for the installation of a toilet, the water tank (3) is not necessary, so that it would not be included in the frame except for the installation of a toilet. Also the connections of the drains and the installation conventional ducts are different according to each sanitary element to be installed, varying the diameter and the configuration of the various water inlet and outlet elements.

[0037] The frame is made preferably of plastic with rotational moulding techniques, since, in this way, a homogeneous distribution of the plastic in the entire piece is achieved and the thickness of the wall is suitable to withstand mechanical stress that this piece will undergo.

Claims

1. Recessed frame for clamping of sanitary elements comprising three main bodies:

- one box of actuation mechanisms (2);
- one intermediate water tank (3);
- one lower structure (4) for supporting and mounting a toilet; such that the three main bodies make up a single one-piece part, wherein the lower structure (4) integrates a central crossbeam (10') wherein two further crossbeams (10) and one exhaust duct (5) converge, the exhaust duct (5) leads into a central area of the central crossbeam (10') flanked by the terminal sections of the further crossbeams (10); and where the lower structure (4) for supporting and mounting

the toilet comprises a bridge (6) which is formed by one single piece, and the bridge (6) is integral to the central crossbeam (10') by the bottom of the aforementioned central crossbeam (10'); the recessed frame being **characterized in that:**

- the two further crossbeams (10) are inclined; and
- the bridge (6) is associated with a flange (7) such that the bridge (6) and flange (7) assembly is configured to attach a drain pipe of the sanitary element of any diameter.

2. Recessed frame according to claim 1 **characterized in that** the lower structure (4) for supporting and mounting the toilet comprises legs (11) with a height adjustment mechanism (14) of said legs (11).

3. Recessed frame according to claim 2 where the height adjustment mechanism (14) of the legs (11) comprises runners (19) coaxial with the legs (11) that slide through the inside of the legs (11) and are fixed through a threaded element (21) being threaded on a hole (23) located in the legs (11) such threaded element (21) being fixed through a nut located inside of the coaxial runners (19), **characterized in that** the height adjustment mechanism (14) of the lower structure (4) for supporting and mounting is incorporated at the bottom of the one-piece part.

4. Recessed frame according to claim 2 **characterized in that** the height adjustment mechanism (14) of the legs (11) comprises runners (19) coaxial with the legs (11) formed by threaded rods (27), with a flat element (28) coaxial with the threaded rods (27) at the lower end of the threaded rods (27), that are introduced by the lower part of the legs (11) through an insert (26), with internal thread, that allows threading the threaded rod (27), fixing the relative position of the threaded rod (27) with respect to the leg (11) by turning the threaded rod (27) through the interior of the insert (26).

5. Recessed frame according to claim 1 **characterized in that** the top of the mechanisms box (2) comprises blunt edges (15).

6. Recessed frame according to claim 1 **characterized by** comprising a discharging device (16) located both in the area of the mechanisms box (2) and in the area of the intermediate water tank (3) that allows emptying the water tank (3).

7. Recessed frame according to claim 1 **characterized in that** the water tank (3) comprises at least one water inlet and at least one water outlet to the water exhaust duct (5).

8. Recessed frame according to claim 1 **characterized in that** the one-piece part comprises a mouldable material selected from plastic, zamac and aluminium.

9. Manufacturing process of the recessed frame according to claim 1 **characterized in that** the one-piece part of mouldable material is manufactured using a technique selected from the rotational moulding technique and the technique of plastic injection.

10. Use of the recessed frame according to claim 1 for mounting parts, wash basins and bidets.

11. Use according to claim 10 wherein the lower structure (4) comprises a mouldable material selected from plastic, zamac and aluminium.

Patentansprüche

1. Eingelassener Rahmen zum Spannen von Sanitär-elementen, drei Hauptkörper umfassend:

- einen Kasten mit Betätigungsmechanismen (2);
- einen Zwischenwassertank (3);
- eine untere Struktur (4) zum Tragen und Montieren einer Toilette;

sodass die drei Hauptkörper ein einteiliges Teil bilden, worin die untere Struktur (4) einen zentralen Querträger (10) aufnimmt, worin zwei weitere Querträger (10) und ein Abgaskanal (5) zusammenlaufen, der Abgaskanal (5) in einen Mittelbereich des zentralen Querträgers (10') führt, der von den Endabschnitten der weiteren Querträger (10) flankiert wird; und worin die untere Struktur (4) zum Tragen und Montieren der Toilette eine Brücke (6) umfasst, die aus einem Stück gebildet ist, und die Brücke (6) mit dem zentralen Querträger (10) verbunden ist; worin der vertiefte Rahmen **dadurch gekennzeichnet ist, dass:**

- die beiden weiteren Querträger (10) geneigt sind: und
- die Brücke (6) einem Flansch (7) derart zugeordnet ist, dass die Anordnung von Brücke (6) und Flansch (7) konfiguriert ist, um ein Ablaufrohr des Sanitärelements mit beliebigem Durchmesser zu befestigen.

2. Eingelassener Rahmen nach Anspruch 1, **dadurch gekennzeichnet, dass** die untere Struktur (4) zum Tragen und Montieren der Toilette Beine (11) mit einem Höhenverstellmechanismus (14) der Beine (11) umfasst.

3. Eingelassener Rahmen nach Anspruch 2, worin der Höhenverstellmechanismus (14) der Beine (11) Kufen (19) umfasst, die coaxial zu den Schenkeln (11) sind, die durch die Innenseite der Schenkel (11) gleiten und durch ein Gewindeelement (21) befestigt sind, das auf ein Loch (23) aufgeschraubt ist, das in den Schenkeln (11) angeordnet ist, worin das Gewindeelement (21) durch eine Mutter befestigt ist, die sich innerhalb der coaxialen Kufen (19) befindet, **dadurch gekennzeichnet, dass** der Höhenverstellmechanismus (14) der unteren Struktur (4) zum Tragen und Montieren am Boden des einteiligen Teils integriert ist.
4. Eingelassener Rahmen nach Anspruch 2, **dadurch gekennzeichnet, dass** der Höhenverstellmechanismus (14) der Schenkel (11) Kufen (19) umfasst, die coaxial zu den durch Gewindestangen (27) gebildeten Schenkeln (11) sind, mit einem flachen Element (28), das coaxial zu den Gewindestangen (27) am unteren Ende der Gewindestangen (27) angeordnet ist, die durch den unteren Teil der Schenkel (11) durch einen Einsatz (26) mit Innengewinde eingeführt werden, der das Gewindestangeneinfädeln (27) ermöglicht, worin die relative Position der Gewindestange (27) in Bezug auf den Schenkel (11) durch Drehen des Gewindestabes festgelegt wird.
5. Eingelassener Rahmen nach Anspruch 1, **dadurch gekennzeichnet, dass** die Oberseite des Mechanikkastens (2) stumpfe Kanten (15) aufweist.
6. Eingelassener Rahmen nach Anspruch 1, **dadurch gekennzeichnet, dass** er eine Entladevorrichtung (16) umfasst, die sowohl im Bereich des Mechanikkastens (2) als auch im Bereich des Zwischenwassertanks (3) angeordnet ist, der das Entleeren des Wassertanks (3) ermöglicht.
7. Eingelassener Rahmen nach Anspruch 1, **dadurch gekennzeichnet, dass** der Wassertank (3) mindestens einen Wassereinlass und mindestens einen Wasserauslass zum Wasserauslasskanal (5) umfasst.
8. Eingelassener Rahmen nach Anspruch 1, **dadurch gekennzeichnet, dass** das einteilige Teil ein formbares Material umfasst, ausgewählt aus Kunststoff, Zamak und Aluminium.
9. Herstellungsverfahren des vertieften Rahmens nach Anspruch 1, **dadurch gekennzeichnet, dass** der einteilige Teil aus formbarem Material unter Verwendung einer Technik hergestellt wird, die ausgewählt ist aus der Rotationsformmethode und der Technik des Kunststoffeinspritzens.
10. Verwendung des Einbaurahmens nach Anspruch 1

zur Befestigung von Teilen, Waschbecken und Bidets.

11. Verwendung nach Anspruch 10, worin die untere Struktur (4) ein formbares Material umfasst, ausgewählt aus Kunststoff, Zamak und Aluminium.

Revendications

1. Cadre mouluré pour la fixation d'éléments sanitaires comprenant trois parties principales :

- une boîte de mécanismes d'actionnement (2) ;
- un réservoir d'eau intermédiaire (3) ;
- une structure inférieure (4) pour supporter et monter une cuvette ;

de telle sorte que les trois parties principales forment une seule pièce, la structure inférieure (4) intégrant une traverse centrale (10') dans laquelle deux traverses supplémentaires (10) et un conduit d'échappement (5) convergent, le conduit d'échappement (5) mène dans une zone centrale de la traverse centrale (10') flanquée par les sections terminales des autres traverses supplémentaires (10) ; et où la structure inférieure (4) pour supporter et monter les toilettes comprend un pont (6) qui est formé d'une seule pièce, et le pont (6) fait partie intégrante de la traverse centrale (10') par le bas de la traverse centrale précitée (10') ;

Le cadre mouluré étant caractérisé du fait que :

- les deux autres traverses (10) sont inclinées ; et
- le pont (6) est associé à une bride (7) de telle sorte que l'ensemble pont (6) et bride (7) est configuré pour fixer un tuyau de drainage de l'élément sanitaire avec un diamètre quelconque.

2. Cadre mouluré conformément à la revendication 1 **caractérisé par le fait que** la structure inférieure (4) pour supporter et monter les cuvettes comprend des pieds (11) avec un mécanisme de réglage en hauteur (14) de ces pieds (11).

3. Cadre mouluré conformément à la revendication 2 dans laquelle le mécanisme de réglage en hauteur (14) des pieds (11) comprend des patins (19) coaxiaux avec les pieds (11) qui coulisent à travers l'intérieur des pieds (11) et sont fixés à travers un élément fileté (21) étant fileté sur un trou (23) situé dans les pieds (11), cet élément fileté (21) étant fixé par un écrou situé à l'intérieur des patins coaxiaux (19), caractérisé du fait que le mécanisme de réglage en hauteur (14) de la structure inférieure (4) pour soutenir et monter est intégré au fond du composant

en une pièce

4. Cadre mouluré conformément à la revendication 2 **caractérisé par le fait que** le mécanisme de réglage en hauteur (14) des pieds (11) comprend des patins (19) coaxiaux avec les pieds (11) formés par des tiges filetées (27), avec un élément plat (28) coaxial avec les tiges filetées (27) à l'extrémité inférieure des tiges filetées (27), qui sont introduits par la partie inférieure des pieds (11) à travers un raccord (26), avec filetage intérieur, qui permet d'enfiler la tige filetée (27), fixant la position relative de la tige filetée (27) par rapport au pied (11) en tournant la tige filetée (27) à l'intérieur du raccord (26). 5
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5. Cadre mouluré conformément à la revendication 1 **caractérisé par le fait que** la partie supérieure du boîtier de mécanismes (2) comprend des bords arrondis (15). 20
6. Cadre mouluré conformément à la revendication 1 **caractérisé par le fait qu'il** comprend un dispositif de décharge (16) situé à la fois dans la zone du boîtier de mécanismes (2) et dans la zone du réservoir d'eau intermédiaire (3) qui permet de vider le réservoir d'eau (3). 25
7. Cadre mouluré conformément à la revendication 1 **caractérisé par le fait que** le réservoir d'eau (3) comprend au moins une entrée d'eau et au moins une sortie d'eau dans le conduit d'évacuation d'eau (5). 30
8. Cadre mouluré conformément à la revendication 1 **caractérisé par le fait que** la pièce monobloc comprend un matériau malléable choisi parmi le plastique, le zamac et l'aluminium. 35
9. Procédé de fabrication du cadre mouluré conformément à la revendication 1 **caractérisé par le fait que** la pièce monobloc en matière malléable est fabriquée selon une technique choisie parmi la technique du moulage par rotation et la technique de l'injection plastique. 40
45
10. Utilisation du cadre mouluré conformément à la revendication 1 pour le montage de pièces, lavabos et bidets.
11. Utilisation selon la revendication 10, dans laquelle la structure inférieure (4) comprend un matériau malléable choisi parmi le plastique, le zamac et l'aluminium. 50
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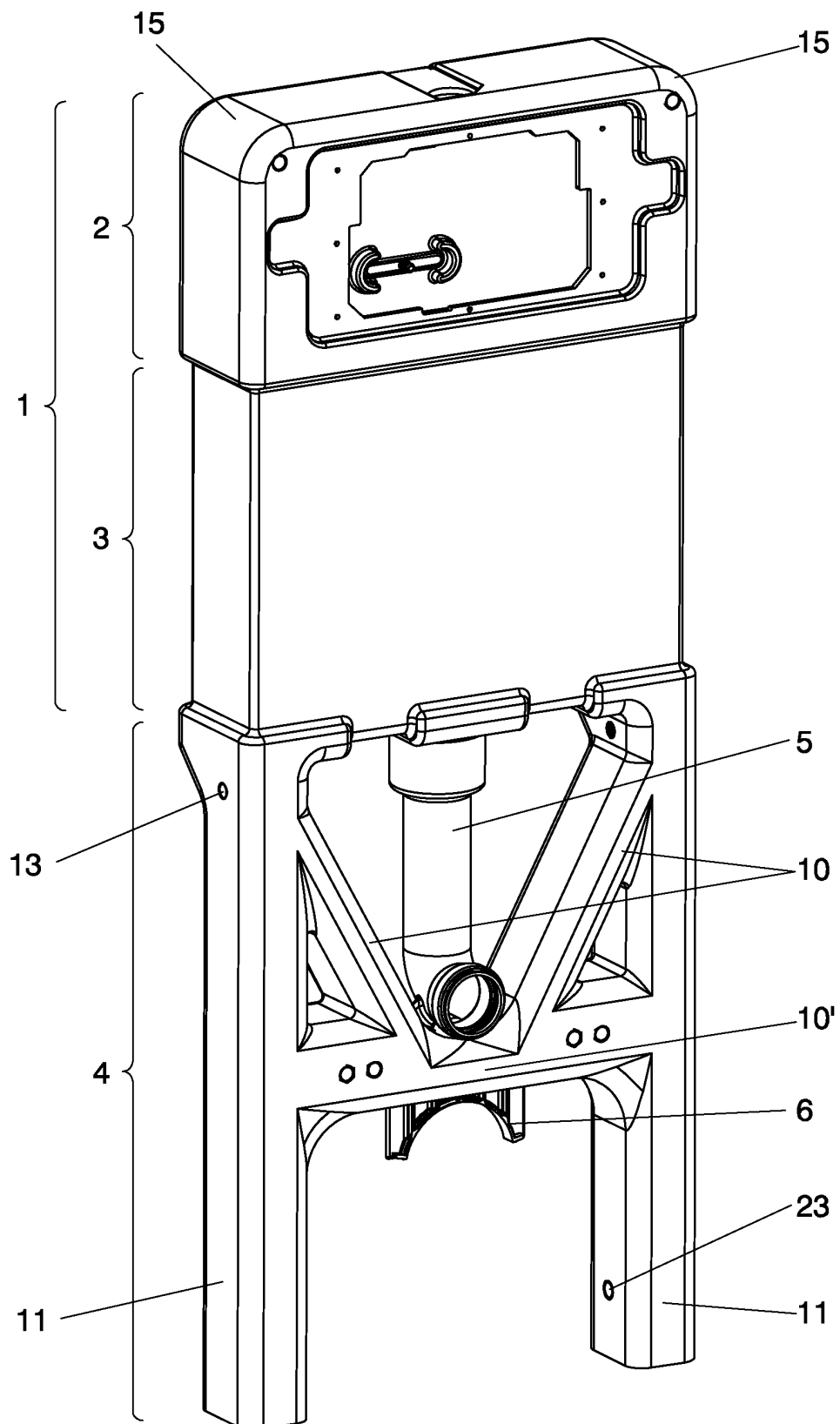
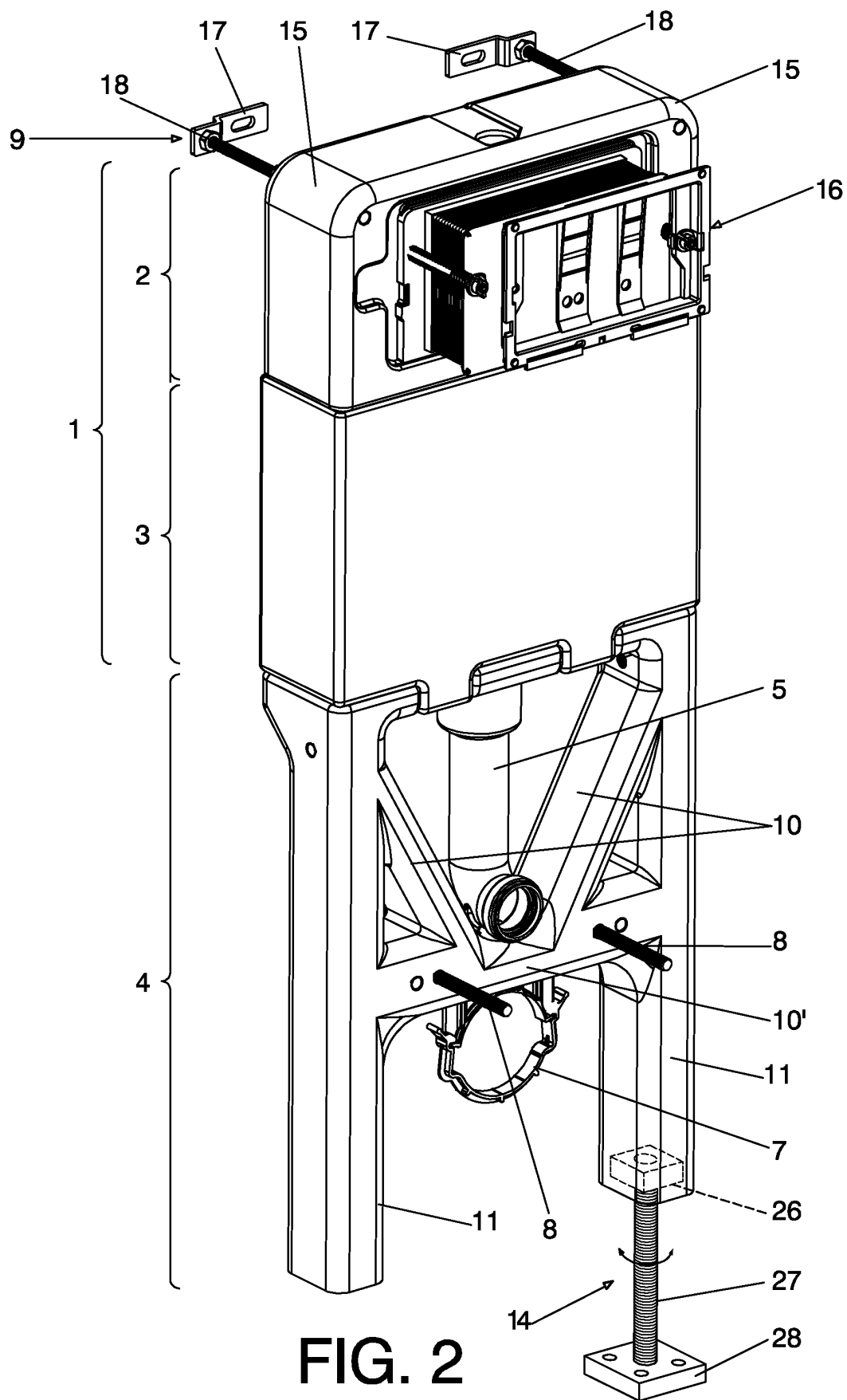
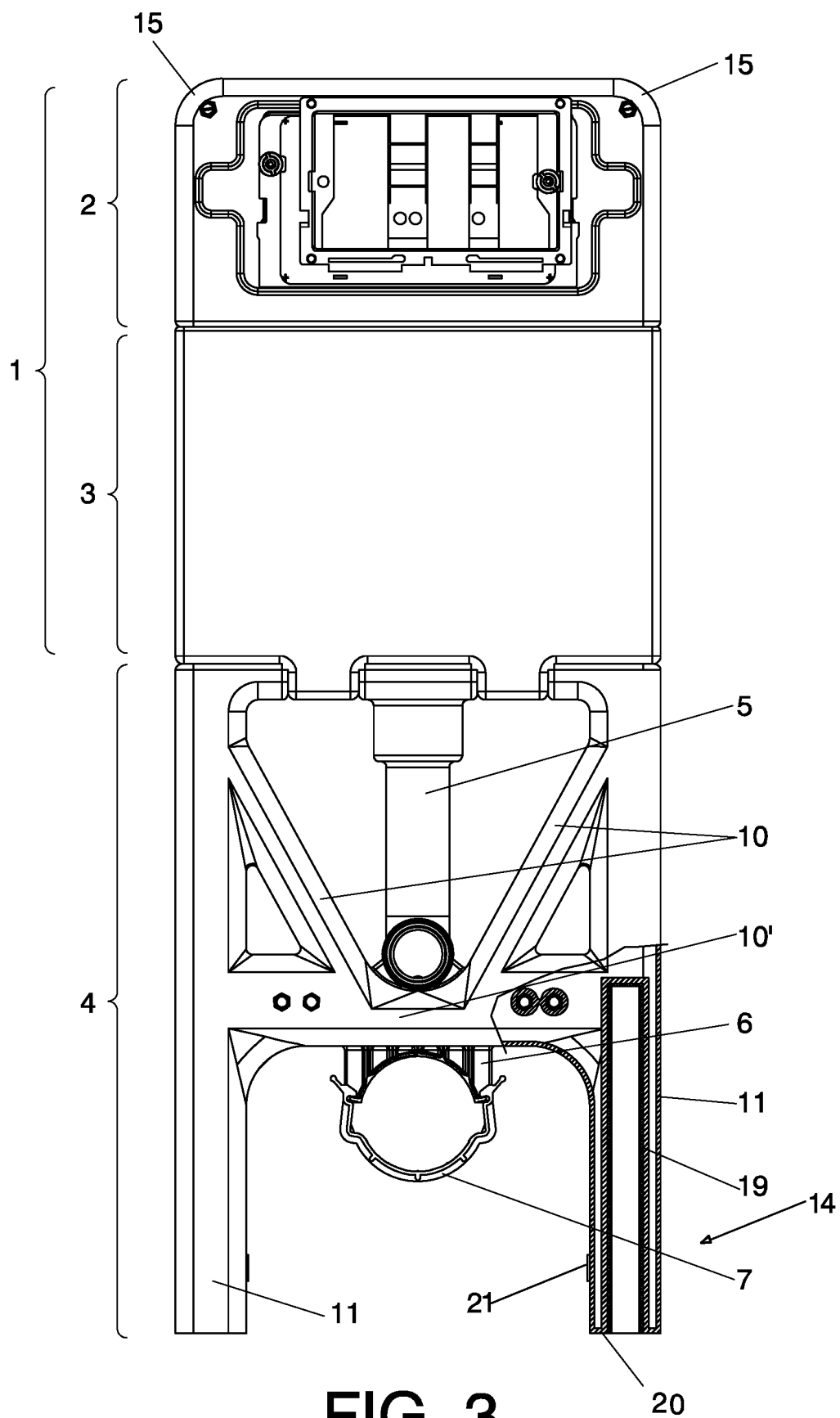


FIG. 1





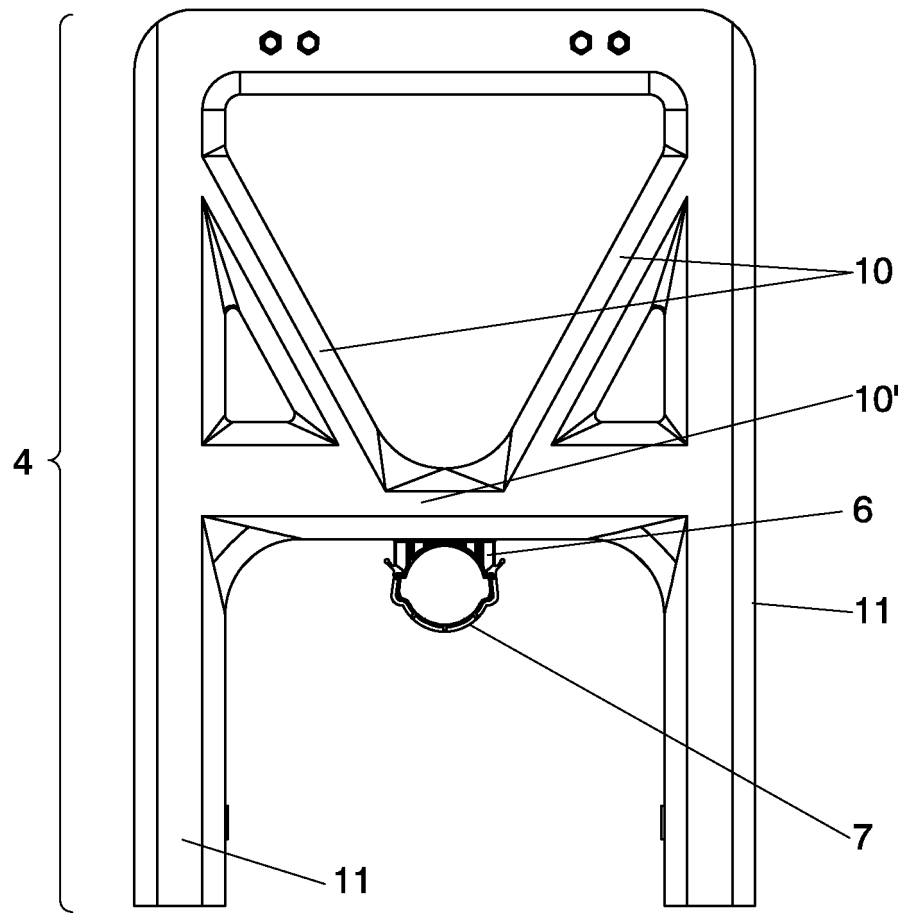


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 0646678 A [0008]
- EP 0826837 A [0009]
- US 3278950 A [0010]