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(54) Benævnelse: **Støttefod til en sanitetsinstallationsramme**

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SUPPORT FOOT FOR A SANITARY INSTALLATION FRAME

DESCRIPTION

The invention relates to a support foot for a sanitary installation frame, which is used for example for pre-wall mounting.

During wall-mounting of, for example, washbasins, toilets, and bidets, these elements are held in place by sanitary installation frames that are fixed to the floor and wall. Such sanitary installation frames have a metal frame, which is usually provided with telescopable support feet. Each support foot in this case has a hollow profile leg, which in the case of a telescopable sanitary installation frame is received by a pipe of the frame. A base plate, which is welded with the hollow profile leg in known support feet, is connected with the hollow profile leg. Examples of such sanitary installation frames can be found in DE-A-195 07 766, DE-A-43 25 734, DE-U-201 21 043, DE-U-92 13 588 and GB-A-1,017,226. Similar support feet are also known from EP 1335 077 A1 and DE 198 51 450 A1. The process of welding increases the installation costs of the support foot and thus of the entire sanitary installation frame.

The problem addressed by the invention is that of providing a support foot for a sanitary installation frame, for which the production is simplified.

To solve this problem, the invention proposes a support foot for a sanitary installation frame, in particular for the pre-wall installation, wherein the support foot is provided with

- a hollow profile leg, and
- a base plate running transversely to the extent of the hollow profile leg and projecting laterally beyond the hollow profile leg.

In this support foot according to the invention,

- the base plate is formed as an integral extension of a side wall of the hollow profile leg, and
- the base plate is bent through substantially 90° relative to the side wall of the hollow profile leg, and
    - at least one locating projection projects from the hollow profile leg at the lower end thereof that faces towards the base plate, which locating projection projects into a recess in the base plate.

The support foot according to the invention is integrally formed, wherein the base plate is formed as a one-piece extension of one of the side walls of the hollow profile leg and bent through substantially 90° relative to the longitudinal extent of the hollow profile leg. Such an integral support foot can be made from a metal blank in a punching-bending tool. In this punching-bending tool, the metal plate blank is provided with sheet metal edges and punched holes so that the finished support foot is produced after passing through several bending and punching processes in the punching-bending tool. Thus, a further step for connecting the base plate with the hollow profile leg can be dispensed with, which reduces the manufacturing cost of the support foot.

In an advantageous embodiment of the invention, the base plate extends over the entire cross section of the hollow profile leg, so this "closes" at its lower end and projects laterally beyond the hollow profile leg.

The locating projections may have an overlap which is substantially equal to the material thickness of the base plate. It is expedient, however, if the overlap is greater than the material thickness of the base plate, so that the locating protrusions can be bent over in the manner of sheet metal flags and thus rests against the base plate. This in turn increases the rigidity of the connection of base plate and hollow profile leg. In order that the bent-over sheet metal flags (overlap regions of the locating projections) that generally rest on the underside of the base plate, act so as not to interfere with the placement of the base plate on a substrate, it is advantageous if the base plate has a particular bead-like indentation on its underside, within which the bent-over overlap regions of the locating projections are arranged.

It is further provided, in an advantageous embodiment of the invention, to provide the hollow profile leg with at least one clamping lug, which serves for the clamping contact of an installation frame pipe that is telescopable relative to the hollow profile leg. With the help of the clamping lug, the installation frame can be pre-positioned by being brought by telescoping to the required height corresponding to the installation situation, then to be finally height-fixed with the aid of screws or similar fastening elements. During the pre-positioning, the clamping lugs of the usually two support feet absorb the weight forces of the sanitary installation frame, so that the known clamping blocks are no longer needed. This also has the effect of reducing the manufacturing costs of the entire sanitary installation frame.

The hollow profile leg expediently has a substantially C-shaped square profile, which is a slotted square hollow profile having a slotted side wall and a side wall opposite thereto. From this, the bent base plate protrudes from the side wall opposite the slotted side wall, which extends in the bent over state laterally outwards beyond the slotted side wall.

The locating projections are expediently formed on both sides of the slot at the lower end of the slotted side wall.

The invention will be explained in more detail below with the aid of two exemplary embodiments with reference to the drawing. The drawing shows, in detail:

Fig. 1 a front view of a telescopable sanitary installation frame with support feet according to a first embodiment of the invention,

Figs. 2–5 various perspective and/or sectional views of one of the two support feet of the sanitary installation frame according to Figure 1, and

Figs. 6, 7 views of an alternatively formed support foot for the sanitary installation frame according to Figure 1.

Fig. 1 shows a view of a sanitary installation frame 10 for the pre-wall mounting of a toilet bowl. The sanitary installation frame 10 has a metal frame construction with lateral pipes 12 and transverse pipes 14. Telescopable support feet 18 are introduced into the lower ends 16 of the lateral pipes 12. The support foot 18 shown on the left in Fig. 1 is shown in Figs. 2 to 5 in various detail views.

The support foot 18 comprises a hollow profile leg 20 and a base plate 22, which are produced in a punching-bending tool from a single metal plate by punching and bending. The hollow profile leg 20 has a square hollow profile with a rear side wall 24, a front slotted side wall 26 opposite thereto and two side walls 28 connecting these two side walls. A central slot 30 extends over the entire length of the side wall 26. On the base plate 22 facing away from the upper end 32 of the hollow profile leg 20 is a clamping lug 34 which is disposed in a recess 36 of the rear side wall 24 and bent outwardly.

As can be seen in particular with reference to Figure 4, the base plate 22 is formed as an integral extension of the rear side wall 24 and bent by 90°, wherein the base plate 22 extends outwards beyond the front side wall 26 and covers the lower end 38 of the hollow profile leg 20. Laterally of the slot 30, the front side wall 26 of the hollow profile leg 20 comprises downwardly projecting locating projections 40, which protrude into two corresponding recesses 44 of the base plate 22. The base plate 22 has a hole 46 to fix the support foot 18 on a substrate.

The variant of a support foot 18' according to Figs. 6 and 7 differs from the support foot 18 of Figs. 2 to 5 through the connection of the hollow profile leg 20 to the front side wall 26 thereof with the base plate 22. The locating projections 40 are bent over in the overlap region 50 thereof via the underside 48 of the base plate 22 and bear against the underside 48 of the base plate 22. In this area, the base plate 22 has a bead-like indentation 52 on the underside 48 thereof, the depth of which is equal to or slightly larger than the material thickness of the locating projections 40. In addition, the base plate has a single slot-shaped recess 42 through which both locating projections 40 extend.

PATENTKRAV

1. Støttefod til en sanitetsinstallationsramme, især til før-vægmontering, med
- et hult profilben (20) og
- en bundplade (22), som løber tværgående i forhold til udstrækningen af det hule profilben (20) og strækker sig sideværts ud over det hule profilben (20),

kendetegnet ved, at

- bundpladen (22) er i form af en integreret forlængelse af en sidevæg (24) af det hule profilben (20), og
- bundpladen (22) er bukket gennem i det væsentlige 90° i forhold til sidevæggen af det hule profilben (20), hvor
- i det mindste et fastgørelsesfremspring (40) strækker sig fra det hule profilben (20) ved den nedre ende (38) deraf, der vender mod bundpladen (22), hvilket fastgørelsesfremspring strækker sig ind i en fordybning (42) i bundpladen (22).

2. Støttefod til en sanitetsinstallationsramme ifølge krav 1, **kendetegnet ved**, at bundpladen (22) strækker sig over det hule profilbens (20) tværsnitsareal.

3. Støttefod til en sanitetsinstallationsramme ifølge krav 1 eller 2, **kendetegnet ved**, at det hule profilben (20) er i form af et slidset firkantprofil, og bundpladen (22) er integreret forbundet med den sidevæg (24) af det hule profilben (20), der er anbragt modsat den slidsede sidevæg (26) og strækker sig ud over dens slidsede sidevæg (26).

4. Støttefod til en sanitetsinstallationsramme ifølge krav 1, **kendetegnet ved**, at fastgørelsesfremspringet (40) har et overlappende område (50), som overlapper bundpladen (22), og fastgørelsesfremspringet (40) er bukket over i dens overlapningsområde (50) og hviler mod bundpladen (22).

5. Støttefod til en sanitetsinstallationsramme ifølge krav 4, **kendetegnet ved**, at bundpladen (22) har en særlig kuglelignende fordybning (52) til modtagelse af det overbukkede overlapningsområde (50) af fastgørelsesfremspringet (40).

6. Støttefod til en sanitetsinstallationsramme ifølge et hvilket som helst af kravene 1 til 5, **kendetegnet ved**, at det hule profilben (20) har mindst en spændenæse (34) til klemkontakt med et rør (12) af installationsrammen (10), hvilket rør er teleskopbart i forhold til det hule profilben (20).

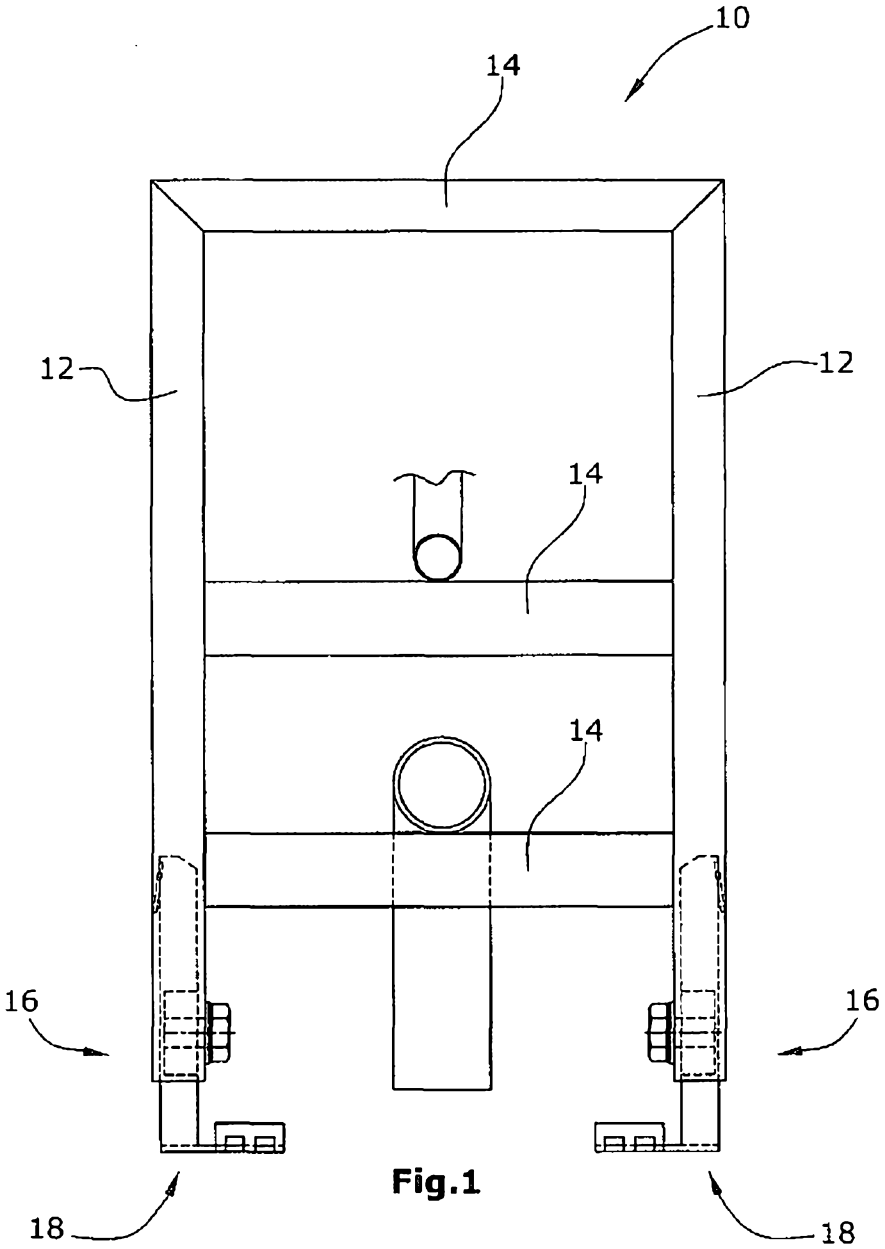

Fig.1

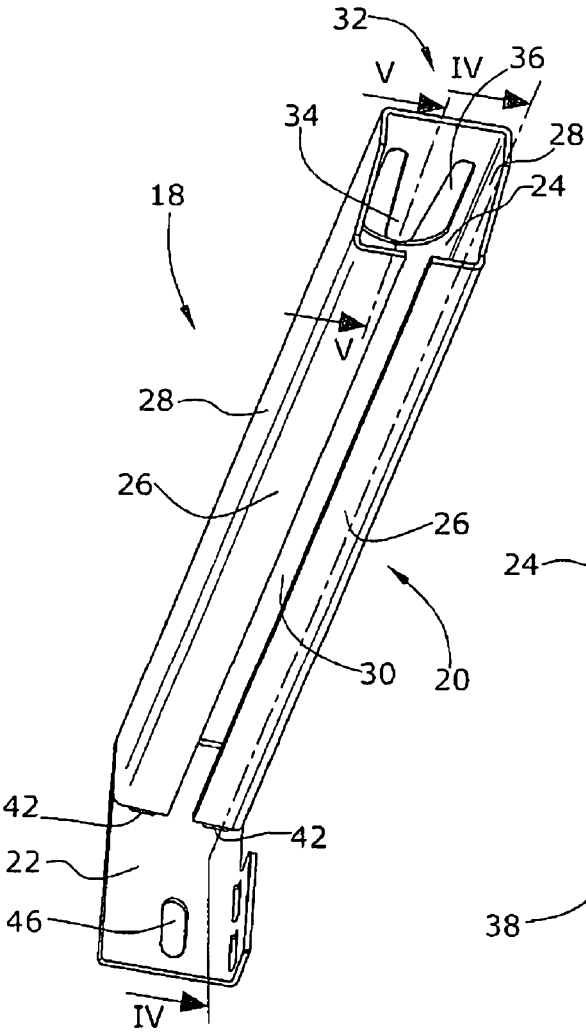

Fig.2

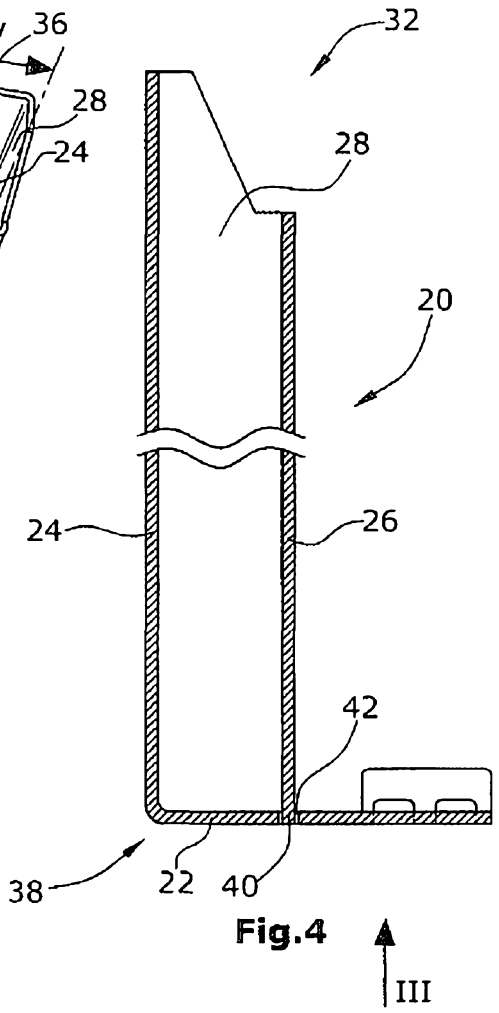

Fig.4

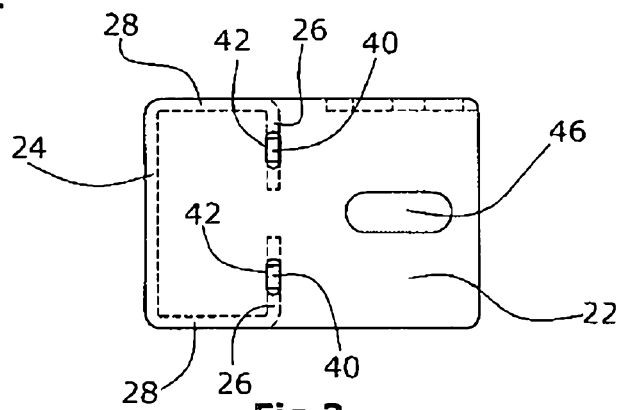

Fig.3

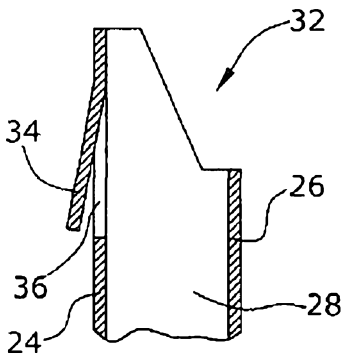

Fig.5

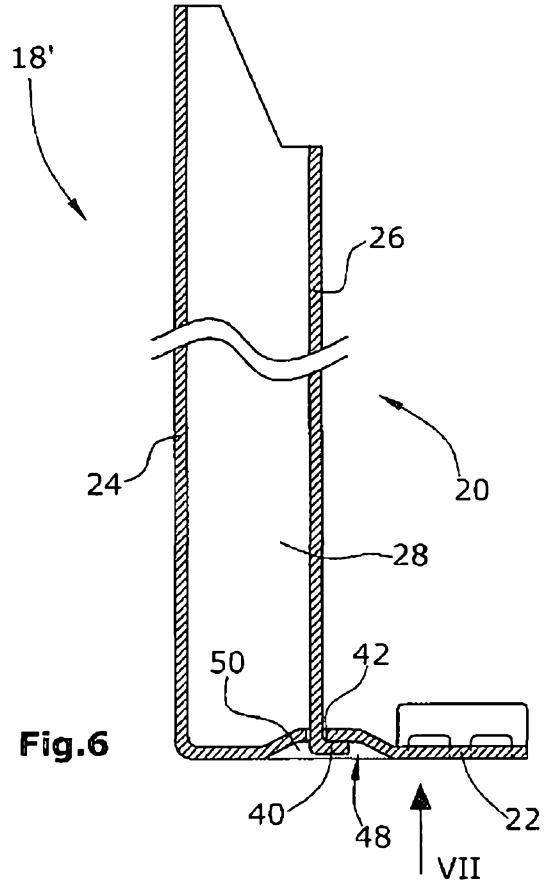

Fig.6

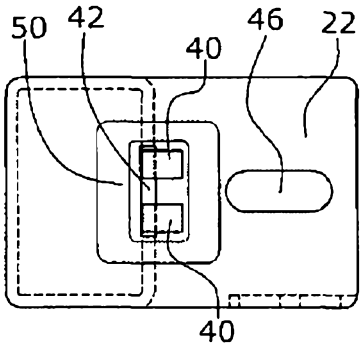

Fig.7