

UNITED STATES PATENT OFFICE

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COMBINED CHAIR AND CARRIER UNIT

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7 Claims. (Cl. 4-252)

The object of the invention is to provide improvement in that type of device, widely employed to operatively support toilet closets, or bowls, urinals, wash basins, mop sinks, etc., and commonly called chair and carrier units.

In the placement of these units, the chairs are first set and secured in position prior to and aided by the installation of the usual concrete, tile or other type of flooring, after which the toilet bowls and other sanitary devices are attached to said chairs through the medium of the carriers, which are required to support the said devices entirely independently of the tile, glass, marble, or other wall materials. Consequently, after a relatively rough setting of the chairs, it is highly advisable that the carriers may be universally adjustable with respect thereto, in order that said devices may be aligned and otherwise properly positioned.

Another object therefore is to provide an improved means for universally adjusting the carrier with respect to the chair of each unit, and thereafter securing said chair and carrier fixedly in such adjusted relation.

Furthermore, it has been found highly desirable to provide the combination of a given chair with a single carrier, which latter in either upright or inverted position will accommodate two or more different types of sanitary or other devices, or will be adapted to at least two forms of the same device, as for instance the well known blowout and siphon jet bowls, such development eliminating the present necessity of keeping such a large number of parts in stock, or even the provision of patterns for many of them.

Still another object has therefore been to provide an improved shape or construction of carrier, which is adapted to be employed in cooperation with a single chair, the carrier to be equally operative whether upright or inverted, depending upon the need in any particular instance.

With these and other objects in mind, the invention comprises further novel details of construction and operation, which are fully brought out in the accompanying drawing, in which Figs. 1 to 4, inclusive, illustrate one embodiment of the invention, Figs. 1 and 2 being respectively the front and side elevations of a combined chair and carrier arranged for supporting a so-called blow-out closet or bowl, while Figs. 3 and 4 respectively represent front and side elevations of the same device arranged for operatively supporting a so-called siphon jet closet or bowl; Fig. 5 is a top plan view of the chair per se; and Fig. 6 is a side elevation partly in section showing the device sup-

porting a siphon jet bowl in combination with a lead pipe connection.

Referring to Figs. 1 to 5, inclusive, the improved chair element of this combination comprises a preferably U-shaped substantially vertical plate 1, having upwardly extending parallel arms 2, which are spaced apart for a purpose hereinafter described. Said plate is maintained in operative position by being a preferably integral extension of a usually horizontally extending U-shaped base 3, having laterally spaced elongated feet 4. In order to strengthen the arms 2 of the plate 1, either or both of the arms and plate may be reinforced by rearwardly extending flanges 5, between which flanges in the case of the arms 2 there are provided (in this embodiment of the invention) four or more vertically elongated apertures 6. The foot extensions 4 of the base may also be reinforced by means of integral flanges 7, while said extensions are provided with any desired number and arrangement of apertures 8 for bolting said chair to a given support in alignment with the sub-floor line 9. When installing chairs of this character, they are placed in the desired position upon the sub-floor line, after which the concrete, cement, tile, or other flooring is laid thereupon up to the finished floor line 10, from which rises the tile, marble, glass, or other wall element 11, to the rear of which the plate 1 and arms 2 are positioned in the usual installation.

The improved carrier is shown as comprising a plate 12, which may be of any desired shape, but which in this instance comprises vertically spaced pairs of wings 13 and 14, which are respectively provided with apertures through which bolts 15 and 15^a respectively normally pass, in addition to said bolts also passing through the apertures 6 of the vertical arms of the chair. It will be noticed that the carrier shown in Figs. 3 and 4 is of the same construction as that shown in Figs. 1 and 2, but is inverted. As shown in Figs. 1 and 2, said carrier comprises an integral ring portion 16, extending forwardly from the upper portion of the plate 12, between and preferably in horizontal alignment with the bolt-receiving apertures in the wings 13. This ring 16 in effect comprises a flange through which extend upper and lower pairs of threaded radially directed bores 17 and 18, through either of which pairs of bores machine screws 19 or the like are adapted to extend.

With the improved device as arranged in Figs. 1 and 2, a toilet bowl 20 of the blow-out type may be operatively supported by said carrier, without its weight, or the weight of any object upon said

bowl, being transferred to the wall 11. This is accomplished by so adjusting the upper bolts 15 and their nuts 21, that said bolts are rigidly secured to the carrier arms 2, after which a tightening of the nuts 22 upon said bolts secures the bowl in position against, but not tightly with respect to, the wall 11. Also, while the strain upon the bolts 15 is that of a longitudinal tension, a central thrust bolt 23 is provided. This bolt extends through the lower rear portion of the bowl and is positioned with respect thereto by means of nuts 24, the rearmost freely extending end portion of said thrust bolt being in engagement with the threaded aperture 25 in the lower portion of the carrier plate 12. Furthermore, in order to level the bowl 20 as an independent element, and particularly when it is desired to align it with respect to neighboring bowls, the lower bolts 15^a, which pass only through the carrier wings and chair arms, are tightened after adjustment, as well as the upper bolts 15. The finer adjustment of the bowl than is permitted by the original placement of the chair is accomplished through the relatively universal adjustability of the carrier plate 12, the vertical adjustment of which as before stated is made possible by the vertically elongated shape of the apertures 16, while the horizontal adjustment or the lateral tilting of the carrier is provided for by reason of the fact that the diameter of the bolts 15 and 15^a is considerably less than the width of the apertures 6. Finally, after the proper adjustment of each of the bowls has been attained, and there has been operatively connected to it the usual threaded ferrule 26 extending through the aperture in the ring 16, the bolts 19 are tightened so as to more rigidly secure said ferrule with respect to the bowl, both of which elements are thereby secured together and to said carrier.

Referring to Figs. 3 and 4, it will be noted that the carrier is inverted, the bolts 19 inserted through the threaded bores 17 instead of the bores 18 as previously described, and the threaded aperture 25 no longer required for use. However, in this inverted position, said carrier is adapted to operatively support what is known as a siphon jet toilet bowl 27, the support and adjustment of which is the same as hereinbefore described, with like elements bearing similar numerals of identification, except that instead of a single centrally positioned thrust or tension bolt extending through the aperture 25, each of the upper and lower bolts 28 and 29 is of the same length as the bolts 15 hereinbefore described. However, in this arrangement, the rear ends of the bolts 28 and 29 are secured to the carrier arms 2 by means of the bolt heads 30 and jam nuts 31, while the forward free ends of the bolts 28 and 29 pass through the rear flanged portion of the bowl, and carry respectively pairs of adjustable jam nuts 32. By this arrangement, it is obvious that a forward or rearward adjustment of the respective nuts 32 upon any one or more bolts 28 and 29 effects a tilting or lateral turning of the bowl, while adjustment of the nuts 31 permits a lateral tilting transverse movement, or vertical shifting of said bowl with respect to its supporting chair.

Referring to Fig. 6, the structure herein shown is similar to that of Figs. 3 and 4, except that the ring 16^a is threaded, so as to receive therethrough a threaded metal ferrule 33, of the type used to surround a lead pipe 34 when the latter is called for by the specification of a given installation, said ferrule being made to engage and compress an asbestos or other suitable gasket 35 between

such ferrule and the rear portion of the bowl 27.

As hereinbefore pointed out, the exact shape and arrangement of the parts of this device herein illustrated and described, are purely illustrative of one embodiment of the invention, as numerous alterations may be made in the same, without effecting or eliminating the functions hereinbefore brought out, including the universal nature of the adjustment which this device provides, and the fact that a single shape of carrier is adapted for more than one type of toilet bowl, mop sink, urinal, or the like.

Having thus described my invention, what I claim and desire to protect by Letters Patent of the United States is:—

1. The combination of a chair comprising a fixed element, with a carrier comprising a plate, and means to simultaneously secure a member adjustable with respect to said plate and said plate to said element, so that relative adjustments between the member and said element can be made in three dimensions and the adjustable relation of said member with respect to said plate being independent of the relation of said plate to said element.

2. The combination of a chair comprising a normally upright element, with an invertible carrier comprising a plate having an aperture adjacent to one end portion, and means to simultaneously secure a toilet bowl, sink, or urinal, to said plate and said plate to said element, with a pipe leading to such bowl, sink, or urinal, passing through said aperture, so that relative adjustments between the member and said element can be made in three dimensions.

3. The combination of a chair comprising a normally upright element, with an invertible carrier comprising a plate having an aperture adjacent to one end portion, means to simultaneously secure a toilet bowl, sink, or urinal, to said plate and said plate to said element, with a pipe leading to such bowl, sink, or urinal, passing through said aperture, so that relative adjustments between the member and said element can be made in three dimensions, and means to fixedly secure the pipe in said aperture, to prevent its vibration with respect to the bowl, sink, or urinal.

4. The combination of a chair comprising a supporting member composed of a pair of spaced elements provided with elongated apertures, a plate having an aperture for a pipe connection in one end portion and adapted to be inverted, said plate also having spaced apertures adapted to receive bolts of smaller diameter, which also pass through said first apertures, to provide for adjustment in three dimensions and secure a bowl, sink, or urinal, to said plate and to said member, while the pipe connection of such bowl, sink, or urinal, extends through the pipe aperture of said plate.

5. The combination of a chair comprising a supporting member composed of a pair of spaced elements provided with elongated apertures, a plate having an aperture for a pipe connection in one end portion and adapted to be inverted, said plate also having spaced apertures adapted to receive bolts of smaller diameter, which also pass through said first apertures, to provide for adjustment in three dimensions and secure a bowl, sink, or hopper, to said plate and to said member, while the pipe connection of such bowl, sink, or urinal, extends through the pipe aperture of said plate, and means to secure a pipe connection in said pipe aperture to prevent the pipe

from vibrating with respect to bowl, sink, or urinal.

6. The combination of a chair comprising a supporting member composed of a pair of spaced elements provided with elongated apertures, an invertible plate having vertically spaced pairs of oppositely extending apertured ears, and a transversely centrally positioned enlarged aperture for the reception of a pipe connection to a bowl, sink, or urinal, and bolts of less diameter than and extending through said ear and element apertures to secure said plate to said chair, said bolts having freely extending end portions adapted to fixedly support a bowl, sink, or urinal, with respect to said plate and said chair, and a pair of nuts carried by each of said bolts to provide for adjustment of such bowl, sink, or urinal, with respect to said plate independently of the co-operation between said plate and said chair.

7. The combination of a chair comprising a supporting member composed of a pair of spaced

elements provided with elongated apertures, an invertible plate having vertically spaced pairs of oppositely extending apertured ears, and a transversely centrally positioned enlarged aperture for the reception of a pipe connection to a bowl, sink, or urinal, bolts of less diameter than and extending through said ear and element apertures to secure said plate to said chair, one pair of said bolts securing said plate only to said chair, and another pair of said bolts having freely extending portions adapted with nuts carried thereby to secure a bowl, sink, or urinal, against separation from said plate and chair, said plate being provided with a threaded aperture, and a thrust bolt extending through and secured by nuts to such bowl, sink, or urinal, and preventing the normal lower portion of such bowl, sink, or urinal, from approaching said plate and chair closer than a predetermined distance.

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