May 17, 1966 G. C. RAWSON 3,251,073

CARRIER FOR TOILETS

Filed Oct. 7, 1963 2 Sheets-Sheet 1

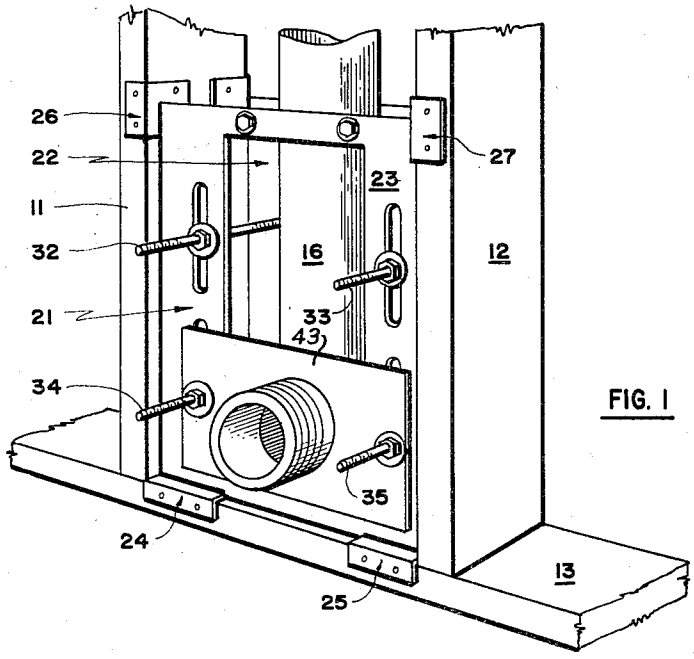


FIG. 1

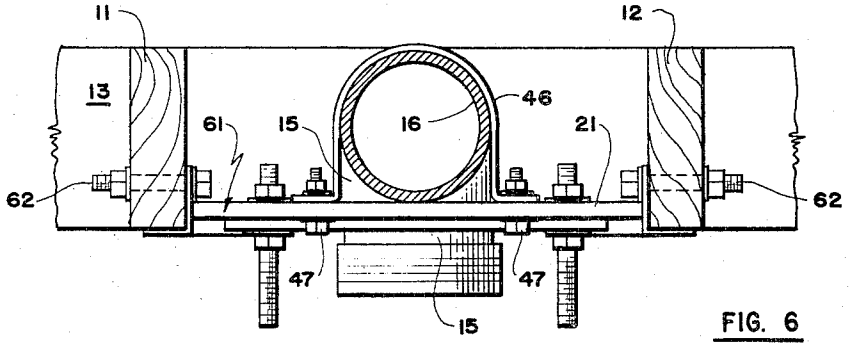


FIG. 6

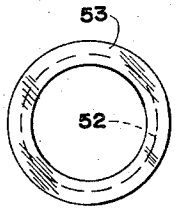


FIG. 5

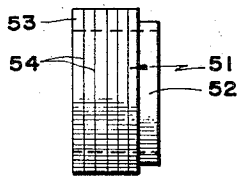


FIG. 4

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CARRIER FOR TOILETS

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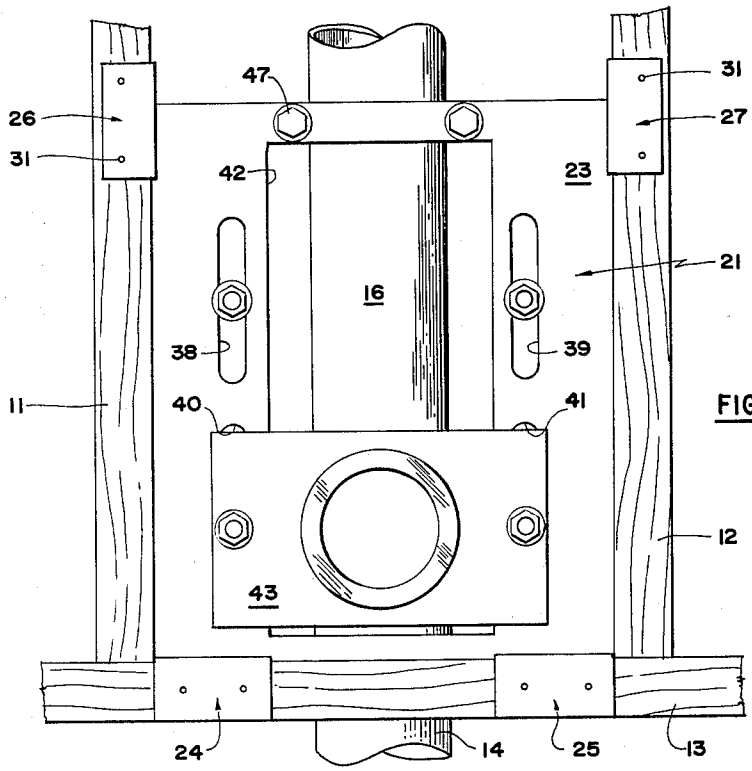


FIG. 2

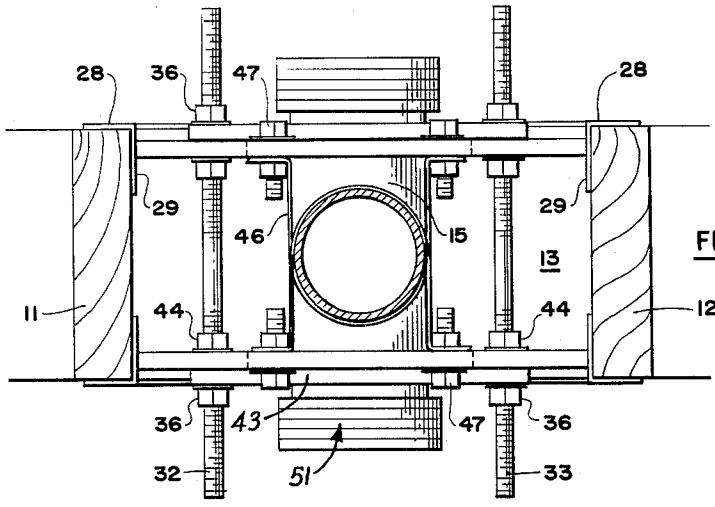


FIG. 3

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CARRIER FOR TOILETS

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3 Claims. (Cl. 4—252)

The present invention relates to the construction of a carrier, or bracket, that enables certain types of toilets to be quickly and easily supported on walls constructed with studs. All that is necessary in wall construction is that there be formed a wall opening having its side or side and bottom edges formed by structural members rigid enough to carry the live and dead loads of the toilet or toilets to be supported at such opening by the carrier of the present invention that fits in such opening.

There have been prior art devices intended for use in attaching toilets to walls but they have been composed of a plurality of parts that must be adjusted with respect to the wall and the toilet, and that required much time for their installation and adjustment.

In view of these prior devices, it has been an object of the present invention to devise a toilet carrier that may be installed at the time the wall is built and that will allow the proper toilet to be attached thereto at a later time.

A further object of the invention is the provision of a toilet carrier that will not interfere with the installation of the drain and vent pipes for the toilet, and that the carrier will aid in the support of such pipes and the connection of the toilet thereto.

A further object of the invention is the devising of a simple compression seal between the toilet and pipe associated with a carrier of the present invention.

The defects of the prior art are remedied and the above objects achieved by means of a carrier consisting of a suitably apertured and flanged plate that fits into a wall opening with such flanges bearing on the side and bottom edges of the opening, and with an opening in an auxiliary locating plate integrated adjustably with the flanged carrier plate for the support and reception therein of the end of the drain pipe or drain pipe T that the toilet is to be connected to. Also, suitable bolt slots are provided for the reception of bolts intended to hold the auxiliary plate and the toilet to the carrier and, in the installation of toilets back to back, to also clamp two carriers to and in a wall opening. Further, a compression seal formed of a rubber ring is provided for sealing between the drain pipe end and the toilet.

One form of the invention constructed in accordance with the above outline is hereinafter described in detail and illustrated in the accompanying drawings, in which:

FIGURE 1 is an isometric view of a portion of a wall's framing and toilet plumbing with two carriers of the present invention secured to such framing for the support of a single toilet or a pair of toilets in back to back relationship.

FIGURE 2 is an elevational view of FIGURE 1.

FIGURE 3 is a plan view of FIGURE 2.

FIGURE 4 is a side view of the seal ring between toilet and drain pipe.

FIGURE 5 is an end view of FIGURE 4.

FIGURE 6 illustrates the use of a single carrier for the support of a single toilet.

In the accompanying drawings, the toilet carriers have been shown as installed in a wall opening formed by consecutive spaced apart wall studs **11**, **12** placed on and secured to a floor plate **13**. The studs form the sides of the opening and the floor plate forms the bottom of such opening. For a wall that is to carry toilet plumbing, these studs are usually 2 x 6, rough or finished. A waste pipe **14** for the toilet, and a cross **15** secured to the upper end of the waste pipe and at the proper height above the building's floor, are best installed before the studs are in place. The vent pipe **16** may be installed after the studs and top plate are in position. A toilet is not illustrated in the drawings but its integration with the carriers will be explained. While the carriers may be installed after a wall is built or roughed in, if possible, it is preferable that they be installed by the carpenters at the time the studs are set as it is then possible for the studs to be set snugly against the carriers, and there is no problem of blocking out or notching the studs to get the carriers to fit the place. No wall finish has been shown applied to the studs, such as lath and plaster. Once the drain and vent pipes, and the carriers are in place, the wall finish is applied to close the opening.

FIGURES 1, 2, and 3 illustrate the installation of two carriers **21**, **22** in a wall opening so that they may carry two toilets in back to back mounting, or only one toilet may be mounted on either side of the wall. All the carriers illustrated are identical so that the details of only one need be described. The carrier **21** is in the form of an apertured flat plate **23** set into the wall opening but retained from entering the opening more than about a half inch by four flanges **24**, **25**, **26**, **27** secured to the edges of the plate. Two of the flanges **24**, **25** are secured to the lower edge, one adjacent each side edge. The other two flanges are secured to the side edges of the plate, one adjacent each top edge. Each of these flanges is in the form of a short piece of angle iron with one leg **28** on the edge face of a stud or the floor plate and the second leg **29** on the face of the stud or plate, and this second leg is secured to the plate **23** so that the plate is recessed in the wall opening. The second leg **29** is long enough to project inwardly of the plate, and both legs are provided with openings **31** therethru for the reception of nails, screws, or bolts so that the carriers may be secured in suitable wall openings by such fastening means being imbedded in the material forming the opening's sides. However, when two carriers are used back to back, threaded hanger rods **32**, **33**, **34**, **35** are passed thru the two plates and a nut **36** is turned on each of the rods to bear on the outer faces of the plates so that the legs **28** of the flanges bear heavily on the edges of the opening and the carriers are held firmly in place without need for nails or screws. The end portions of the threaded rods fit thru openings in the toilet's flange and other nuts threaded on the rods hold the toilet against the wall and the studs.

The spacing of the four holes in the toilet's flange is the same for all wall hung toilets. Also, the location of the waste opening with respect to the flange holes is the same for all such toilets. However, the height of the drain opening above the floor may be varied. Thus, tht carriers are provided with vertically elongated slots **38**, **39**, **40**, **41**, one for each of the threaded rods, and one slot **42** for the drain hub of the cross **15**. Also, the two lower rods **34**, **35** are located with respect to the drain openings by locating plates **43**, one for each carrier **21**, **22**. Each locating plate has holes therethru for the two lower rods and the hub of the cross **15** that the toilet is to be conected to. The holes in the locating plate are snug to the cross's hub and the rods so that their relative location is accurately determined by the locating plate. The locating plate is placed on the hub of the cross before the threaded rods are placed thru the carriers. Also, the threaded rods are each provided with a pair of nuts **44** so that one may bear against the inside of each carrier **21**, **22** after the outer nuts **36** have been tightened against the carriers. The outer nuts **36** on the lower rods **34**, **35** bear against the locating plate **43** to force it against a carrier. Movement of the hubs of the cross **15** thru their openings in the locating plates **42** may be prevented by each carrier having a

strap **46** around the vent pipe **16** with the strap tightened and secured to the upper edge portion of the carrier by a pair of bolts **47**.

The hub of the cross **15** extends slightly outwardly of the locating plate **43** and makes a tight joint with the toilet thru the intermediary of a rubber packing, sealing, or compression ring **51**, shown separately in FIGURES 4 and 5. This seal ring has a reduced section **52** that snugly fits inside of the hub of the cross **15**, and a larger section **53** that butts against the end of the hub and, also, fits into a recess surrounding the drain opening in the flange of the toilet. When the toilet flange is bolted to the wall and the carrier by nuts on the threaded rods **32, 33, 34, 35** bearing against the outer face of such toilet flange, the larger section **53** is compressed between the end of the hub of the cross and the inner face of the toilet's flange. This makes a tight seal between the drain pipe and the toilet. The enlarged section **53** of the ring **51** is circumferentially scored, partly cut thru, at a plurality of spaced apart locations **54** so that the axial length of the enlarged section **53** may be trimmed to the needed length for a particular installation by cutting thru the section or a selected one of the scores **54**.

The showing of FIGURE 6 is a modification only in the manner in which the toilet carrier of the present invention is used. Wherever applicable, the same reference numerals have ben applied in this view as in the previous views. In this view there is shown only one carrier **61** that is identical to the previously described carriers **21, 22**. In this showing the threaded hanger rods **32, 33, 34, 35** are shorter than when two carriers are back to back; and the carrier plate upper side flanges **26, 27** are securely bolted to the studs by bolts **62**, one thru each of the flange legs **29** that bears on the face of a stud and thru such stud. The lower flanges **24, 25** need only be nailed or screwed to the floor plate **13** as the load of the toilet forces these flanges against the plate while the upper flanges are pulled from the studs by the load.

From the above description and the drawings, it will be seen that applicant has devised a toilet carrier plate that is a single flanged plate that easily, readily, and securely integrates with a wall, and that with the flanged plate there is used a locator plate, threaded rods, and a sealing ring **51** to hold all of these parts and a toilet and a drain fitting together, and to seal the toilet to the drain fitting.

Having thus described my invention, its construction, operation, and use, I claim:

1. A toilet carrier comprising a plate dimensioned to be generally extensive between adjacent wall studs, said plate being defined by top, bottom and side edges and front and back surfaces, angle shaped flanges having edge and face legs with inner and outer faces, one of said flanges being joined to each of the side edges of said plate adjacent the top edge thereof and to the bottom edge adjacent each of the side edges, the joint between flange and plate being to the face leg intermediate the ends of its outer face, with all of the edge legs equally spaced from the plane of the front surface of said plate, medially of said plate and extending parallel to said side edges a slot adapted to receive therethru the hub of a drain pipe fitting, and extending parallel to and between each of said side edges and said hub slot a plurality of bolt slots narrower than said hub slot.

2. The combination with claim **1** of a locating plate having a hole formed medially thereof adapted to snugly fit such hub, and having a bolt hole formed at each side of said hub hole, said bolt holes being spaced the distance between said bolt slots across said hub slot.

3. The combination with claim **2** of a seal ring having a portion fitting inside of such hub and a portion fitting against the end of such hub.

No references cited.

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H. GROSS, *Assistant Examiner.*