Nov. 13, 1951 N. A. RUBNER 2,575,130

FLUSH TANK DRIP CATCH

Filed April 24, 1948

Fig. 1.

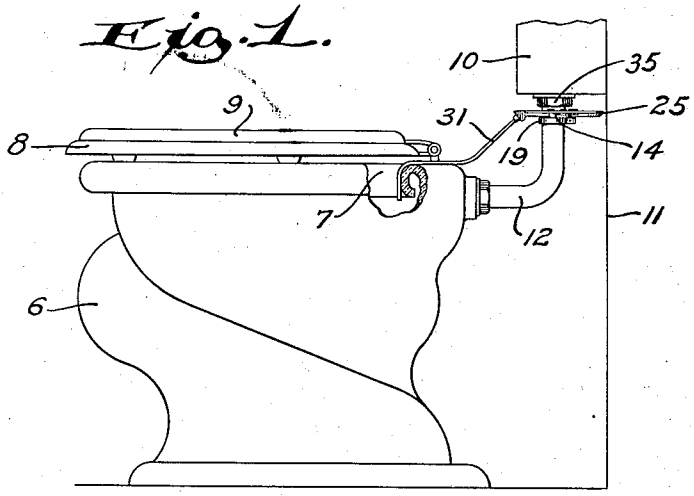
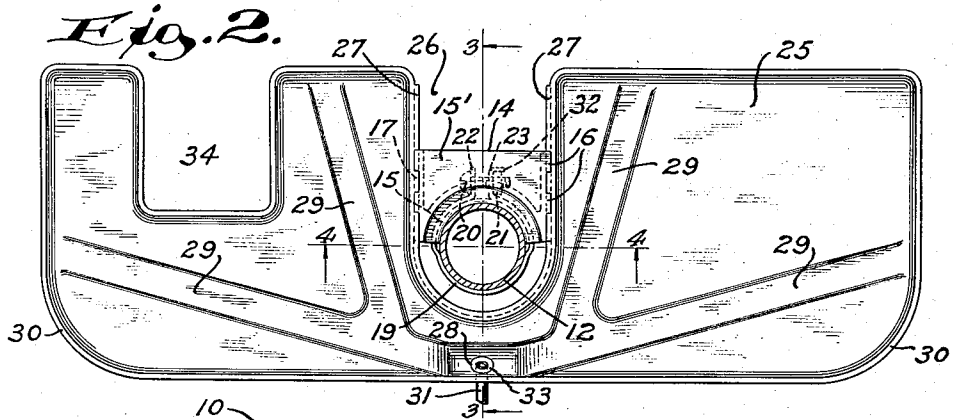


Fig. 2.



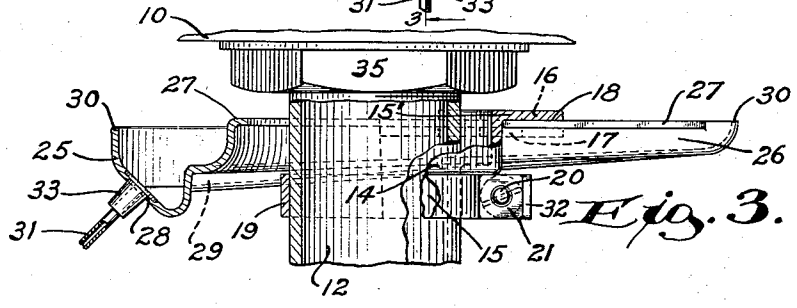


Fig. 3.

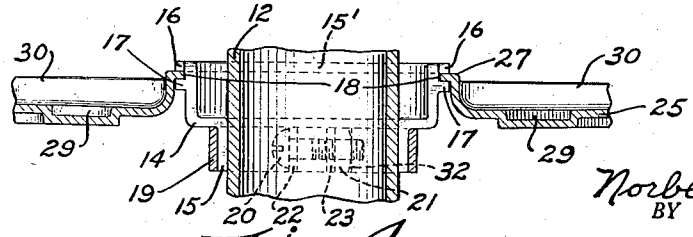


Fig. 4.

INVENTOR.
Norbert A. Rubner
BY
Lieber & Lieber
ATTORNEYS.

Patented Nov. 13, 1951

2,575,130

UNITED STATES PATENT OFFICE

2,575,130

FLUSH TANK DRIP CATCH

Norbert A. Rubner, Milwaukee, Wis.

Application April 24, 1948, Serial No. 22,970

1 Claim. (Cl. 4—252)

1

This invention relates generally to improvements in the construction and operation of drip catch pans for toilet flush tanks, and the primary object of my present invention is to provide an improved flush tank drip catch which is simple and durable in construction and highly effective in normal use.

As shown and described in my prior Patent No. 1,785,877, granted December 23, 1930, I have heretofore proposed the use of a drip catch for toilet flush tanks, comprising a horizontal elongated U-shaped trough-like metal body or pan adapted to be supported from an adjacent wall beneath the lower edges of the flush tank and having a drainage tube communicating with the interior of the toilet bowl. It has also been previously proposed to utilize a support for such a pan adapted to be fastened to the tank outlet pipe, and with which the metal pan was detachably cooperable; and while both of these prior devices have gone into quite extensive commercial use, they would become rather unsightly after long periods of utilization due to rusting of metal and chipping of enamel or other coatings therefrom, and they were also difficult to install and to remove and reapply for cleaning purposes, thus making them relatively unpopular.

It is therefore a more specific object of the present invention to provide an improved flush tank drip catching accessory, which will remain attractive and most effective for an indefinite period of time, and wherein the support may be readily installed while the pan may be conveniently removed and reapplied for inspection and cleaning purposes.

Another specific object of this invention is to provide an improved drip catch assemblage for toilet flush tanks, wherein the pan and its support are formed of attractively colored plastic or other relatively resilient material adapted to resist breakage and indentation or permanent distortion.

A further specific object of my invention is to provide a light but strong drip catch unit, which may be manufactured and sold at moderate cost, and which is also adapted to be applied to standard flush tanks with ease by a novice.

Still another specific object of the invention is to provide a simple and inexpensive drip catching fixture for toilet bowls or the like, which will enhance the appearance of the toilet installation while effectively protecting the room floor from annoying drippings.

These and other specific objects and advantages of the present improvement will be apparent from the following detailed description.

A clear conception of the features constituting my present improvement, and of the construction,

2

installation and operation of a typical embodiment of the invention, may be had by referring to the drawing accompanying and forming a part of this specification wherein like reference characters designate the same or similar parts in the various views.

Fig. 1 is a part sectional side elevation of a typical toilet installation having one of my improved drip catch units applied to the flush tank outlet pipe and bowl;

Fig. 2 is an enlarged top view of the pan and support of the unit, depicting the same applied to the tank outlet pipe shown in section;

Fig. 3 is a further enlarged transverse section through the pan and support assembly, taken along the line 3—3 of Fig. 2; and

Fig. 4 is a likewise enlarged fragmentary longitudinal section through the pan and the support clamping ring, the section having been taken along the line 4—4 of Fig. 2.

While the invention has been shown as having been applied to a typical drip catch for standard toilet installations having a flush tank secured to a wall and located closely adjacent to the rear of the bowl, it is not my desire or intent to unnecessarily limit the utility of the improvements by virtue of this restricted embodiment; and it is also contemplated that specific descriptive terms used herein be given the broadest possible interpretation consistent with the disclosure.

Referring to the drawing, the typical toilet installation shown therein comprises in general, a porcelain bowl 6 having an upper opening 7 normally closed by a seat 8 and a cover 9, and a flush tank 10 suspended from a wall 11 rearwardly of the bowl 6 and communicating with the interior of the latter through a relatively sturdy outlet pipe 12. The tank 10 is ordinarily provided with the usual internal flush valve mechanism and with an external actuating means located at one side of the pipe 12, but these parts have not been illustrated as they are old and well known.

My improved drip catch unit is shown in detail in Figs. 2, 3 and 4, and comprises a one-piece rigid bracket or support 14 formed of plastic and having a semi-circular lower apron 15 adapted to snugly engage the rear of the cylindrical pipe 12, while its upper portion is provided with a rearwardly directed shelf 15' having vertically spaced and staggered upper and lower projections 16, 17 respectively at its opposite sides forming parallel grooves 18 extending along the shelf 15'; a resilient metal clamping ring 19 snugly embracing the front of the pipe 12 and the rear of the apron 15 of the support 14 and normally being clamped to these parts by a screw bolt 20 and a square nut 21 engaging

radial flanges 22, 23 respectively of the ring 19; a unitary main drainage receptacle or pan 25 also formed of plastic and having a continuous peripheral rim 30 normally disposed outwardly slightly beyond the bottom edges of the tank 10 while its mid-portion is provided with a rear recess 26 having inwardly projecting opposite side rails 27 slidably engaging the grooves 18 of the support 14, and also has a central front drain opening 28 therein at the lowest portion of a series of drainage troughs 29 formed in the pan 25; and a drain pipe 31 connecting the pan opening 28 with the interior of the toilet bowl 6 through the bowl opening 7.

The support 14 and pan 25 are preferably formed of durable but resilient plastic of any desired color so as to produce highly attractive and readily cleanable elements which will resist breakage and indentation due to impact, and while this material is relatively light it does possess great strength. The resilient clamping ring 19 is preferably formed of non-corrosive metal or may be plated to avoid rusting, and the integral flange 23 of this ring may be provided with an off-set end 32 as shown, in order to prevent the nut 21 from rotating while the screw bolt 20 is being applied thereto, see Figs. 2 and 3. The drainage troughs 29 of the pan 25 should be distributed throughout the major area of the horizontal pan as indicated in Figs. 2 and 4, and converge toward the central opening 28; and the drain pipe 31 may be formed of easily distortable non-corrosive metal or other suitable material, and may be fastened to the pan 25 at the opening 28 with the aid of a press-fitted ferrule or spud 33 as illustrated in Fig. 3. The elongated pan 25 may furthermore be provided with a rear cut-out 34 as revealed in Fig. 2, in order not to interfere with the flush tank supply pipe, and the parallel rails 27 should have a rather snug but free sliding fit with the support recesses 18.

When the several parts of the improved drip catch unit have been properly constructed as hereinabove described, they may be assembled and utilized as follows. The bracket or support 14 should first be applied and securely attached to the rear of the tank outlet pipe 12 directly beneath the pipe attaching nut 35, with the aid of the clamping ring 19, screw bolt 20, and nut 21, by utilizing an ordinary screw driver, as indicated in Figs. 2, 3 and 4. The pan 25 may thereafter be firmly applied to the fixed support 14, by merely sliding the parallel rails 27 of the drip catch receptacle rearwardly along the grooves 18 formed by the staggered projections 16, 17 of the bracket, until the pan ridge or rim 30 is properly positioned relative to the lower drip edge of the tank 10, whereupon the drain pipe 31 may be finally applied as depicted in Figs. 1, 2 and 3. Any condensate liquid which thereafter forms on the exterior of the tank 10 will then drip into the pan 25 and will be conducted by the troughs 29 toward the opening 28 from whence the liquid will be conducted by the pipe 31 to the toilet bowl 6 in an obvious manner. In order to subsequently remove the pan 25 for inspection or cleaning, it is only necessary to withdraw the lower end of the drain pipe 31 from within the bowl 6, and to pull the pan forwardly until the rails 27 leave the grooves 18, and the pan 25 may thus be quickly and conveniently removed or reapplied without disturbing the support 14.

From the foregoing detailed description of a typical embodiment of my invention, it will be apparent that I have in fact provided a simple, durable and highly attractive and effective drip catch unit for toilet flush tanks 6 or the like, which may be readily installed and wherein the pan 25 may be conveniently removed and reapplied to a rigid support. The use of plastic in the formation of the support 14 and pan 25, not only introduces great strength and lightness, but also permits the use of very attractive colors and surfaces which may be easily cleaned. The improved formation of the cooperating pan side rails 27 and support grooves 18 facilitates assembly and dismantling of the unit in relatively inaccessible places, and the improved devices may be installed by a novice with ordinary available tools such as a screw driver. The improved flush tank drip catch assemblies may be manufactured in diverse sizes at moderate cost for various uses, and have proven highly satisfactory and successful in actual use in connection with different types of toilet installations.

It should be understood that it is not desired to limit this invention to the exact details of construction or to the precise mode of utilizing the drip catch units herein specifically shown and described, for various modifications within the scope of the appended claim may occur to persons skilled in the art.

I claim:

In a pan support cooperable with a cylindrical upright mounting member, a rigid horizontal pan having a rearwardly open central recess bounded by an integral upstanding U-shaped wall the upper edge of which is provided with an integral inwardly directed continuous flange forming parallel rearwardly extending rails connected by a front semi-circular flange portion having greater radius than that of the cylindrical mounting member, a unitary supporting element having a rigid semi-circular integral apron disposed entirely beneath the pan and snugly cooperable with the rear of the upright cylindrical mounting member and also having an integral rearwardly extending rigid shelf at its upper extremity provided with rigid vertically spaced parallel periodically interrupted outwardly open grooves projecting rearwardly away from said apron and adapted to loosely slidably receive said parallel pan rails, and a clamping collar snugly directly engaging said apron and the adjacent front half of said cylindrical mounting member and being manipulable from the rear beneath said pan, said pan being freely forwardly removable from said element without disturbing said clamping collar or the supporting element.

NORBERT A. RUBNER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
80,210	Perham	July 21, 1868
88,420	Sherwood	Mar. 30, 1869
115,923	Wright	June 13, 1871
312,159	Perkins	Feb. 10, 1885
1,785,877	Rubner	Dec. 23, 1930
1,863,211	Wimmer	June 14, 1932
2,180,902	Herodes et al.	Nov. 21, 1939
2,211,226	Bautz	Aug. 13, 1940
2,449,445	Bodan	Sept. 14, 1948