May 23, 1961 N. E. WILSON 2,984,841

TOILET BOWL DEODORIZERS AND HOLDERS THEREFOR

Filed March 13, 1959

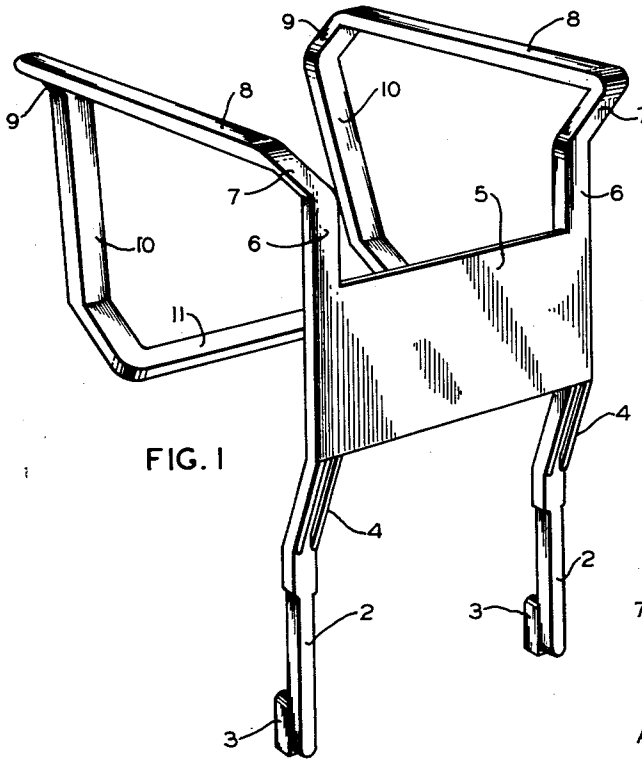


FIG. 1

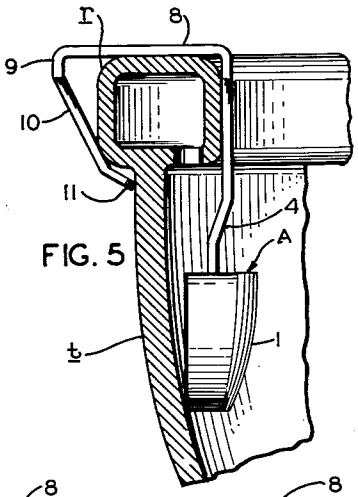


FIG. 5

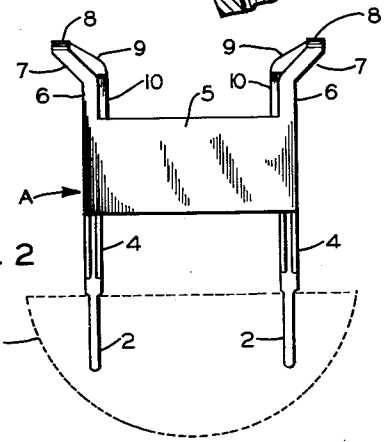


FIG. 2

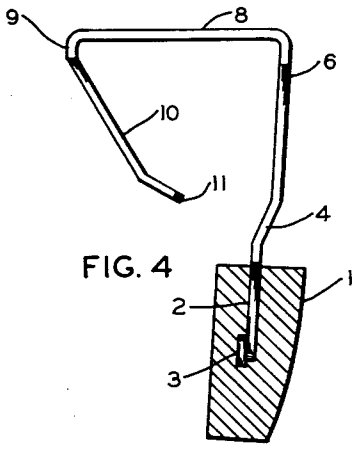


FIG. 4

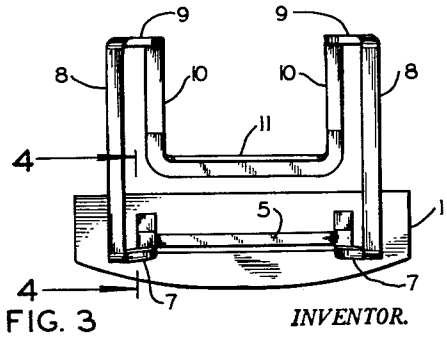


FIG. 3

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# TOILET BOWL DEODORIZERS AND HOLDERS THEREFOR

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2 Claims. (Cl. 4—231)

This invention relates to toilet bowl deodorizers and holders therefor.

Deodorizers for toilet bowls or commodes are usually constructed by compressing paradichlorbenzene into a solid block around the ends of a wire frame or bracket which is bent into a hook-like configuration so that it will clip over the rim of the toilet bowl. The wire is usually of ordinary steel and, in time, tends to rust, leaving unsightly stains on the white porcelain of the toilet bowl. These rust stains are unsightly and impart an unsanitary appearance to the toilet bowl. Moreover, these stains are very difficult to remove with ordinary household cleaning agents and oftentimes, when the rusting has continued for a long period of time, the stains become permanent.

As may be expected, many efforts have been made to overcome this problem by dipping the wire frame or bracket in paint-like material, plastic coatings, and the like. These efforts, however, do not seem to have been successful for the reason that coating materials flake off rather quickly and never really form a satisfactory bond to wire which must be inherently flexible. Some efforts have also been made to mold frames from various synthetic resins or so-called "plastics." All efforts, prior to the present invention, seem to have been unsuccessful for the reason that paradichlorbenzene is not chemically compatible with most plastics and cannot be effectively molded therearound. It seems as if the vapors which sublime from the paradichlorbenzene cake have a deleterious effect on most types of synthetic resins or plastics. In addition to this, synthetic resins and plastics are, for the most part, relatively brittle and will break when flexed sufficiently to snap over the edge of a toilet bowl. In fact, most synthetic resins must be formed either by compression molding or injection molding. As a result, these products do not lend themselves to convenient fabrication so far as paradichlorbenzene deodorant blocks are concerned.

It is, therefore, one of the primary objects of the present invention to provide a toilet bowl deodorizer having a mounting frame or hanging bracket which is rust and corrosion free.

It is also an object of the present invention to provide a toilet bowl deodorizer which can be made in a variety of colors and is, therefore, capable of conforming to the general decorative scheme of a household bathroom.

It is a further object of the present invention to provide a toilet bowl deodorizer of the type stated which is relatively economical to manufacture.

With the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawings—

Fig. 1 is a perspective view of a toilet bowl deodorizer frame or mounting bracket constructed in accordance with and embodying the present invention;

Fig. 2 is a front elevational view of the frame;



Fig. 3 is a top plan view of a toilet bowl deodorizer constructed in accordance with and embodying the present invention;

Fig. 4 is a transverse sectional view taken along line 4—4 of Fig. 3; and

Fig. 5 is a fragmentary sectional view of a toilet bowl equipped with a toilet bowl deodorizer of the present invention.

Referring now in more detail and by reference characters to the drawings, which illustrate a preferred embodiment of the present invention. A designates a toilet bowl deodorizer comprising a somewhat semicircular block **1** of paradichlorbenzene having embedded therein a pair of substantially parallel arms **2, 2**, formed of thermoplastic resin characterized by a linear structure and relatively high density resulting from the catalytic polymerization of ethylene gas at low pressures employing supported chromium oxide type catalysts. This type of thermoplastic resin is a polyolefin and may be referred to as linear polyethylene of the so-called "rigid type." The arms **2, 2**, are firmly embedded in the block **1** during the molding thereof and are integrally provided at their lower or embedded ends with rearwardly projecting protuberances **3, 3**. As will be noted by reference to Figs. 1 and 4, the protuberances **3, 3**, are arcuately rounded at their top margins and, at their lower ends, project downwardly beyond the lower ends of the arms **2, 2**. At their upper ends, the arms **2, 2**, integrally merge into forwardly angulated ribbed sections **4, 4**, which are parallel to each other and, at their upper ends, merge integrally into a cross-connecting plate **5**. The plate **5** imparts structural rigidity to the structure by absorbing transverse stresses which would otherwise spread the arms **2, 2**, or, alternatively, push them toward each other and thereby weaken the bond between the arms **2, 2**, and the paradichlorbenzene block **1**. In addition to this, the plate **5** may be used for the purpose of displaying legible indicia, such as the name or trademark and the manufacturer.

Formed integrally with and extending upwardly from the upper margin of the plate **5** are two short straight bars **6, 6**, which merge integrally at their upper ends with outwardly diverging connection members **7, 7**, and the latter, in turn, merge inwardly at their upper ends with rearwardly extending top bars **8, 8**. It will be noted by reference to the drawings that the members **6, 6**, and **7, 7**, lie substantially in the plane of the plate **5** and the top-bars **8, 8**, are substantially perpendicular to the plane of the plate **5**. At their rear ends, the top-bars **8, 8**, merge integrally with inwardly and downwardly diverging members **9, 9**, which, in turn, at their lower ends, merge into downwardly projecting back-arms **10, 10**. As will be seen by reference to Fig. 4, the back-arms **10, 10**, are inclined at a rather acute angle forwardly toward the plane of the plate **5** and are, in turn, integrally merged at their lower ends with a U-shaped cross-connecting member **11**, which is angled forwardly at an even more acute angle.

As will be seen by reference to Fig. 5, the top bars **8, 8**, and the back-arms **10, 10**, can be flexed outwardly and slipped over the marginal rim *r* of a toilet bowl *t* forming a retentive hook-like structure which will hold the block **1** in depending relation within the toilet bowl *t*. In this position, the top-bars **8, 8**, rest smoothly in horizontal position and will not rust or stain the porcelain of the toilet bowl *t*. The synthetic resin used to mold the hanger member in accordance with the present invention can, of course, be compounded with any suitable color to match the colors currently in vogue for toilet bowls. Thus, the toilet bowl deodorizer will merge visually with the boilet bowl so as to be virtually unnoticed.

The linear polyolefin has unique properties in that it is completely resistant to the corrosive action of water and

ordinary household cleaning agents, detergents, and the like, with the result that it is not harmed by water or such agents during regular usage. In addition to this, the material has the further unique property of being unaffected by the fumes of paradichlorbenzene or naphthalene which are the chemical agents commonly used in molding the block **1**. Most synthetic plastic materials which have been experimentally used in connection with toilet bowl deodorizers seem to absorb or be chemically affected by the vapors rising from the block **1** and very quickly become completely useless. It has also been discovered in connection with the present invention that linear polyolefins are completely resistant to the corrosive action of urine and excreta, whereas conventional plastic materials are adversely affected.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the toilet bowl deodorizers and holders therefor may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A toilet bowl deodorizer comprising a block of compressed paradichlorbenzene, and hanger means formed of rigid-type linear polyethylene, said hanger means integrally including a pair of arms embedded at one end in and projecting from said block, said arms merging at the other ends into laterally extending top bars, said top bars in turn merging at their remote ends into hook-forming back arms which are spaced laterally away from the pair of arms, said back arms being joined by a transversely extending connecting member which prevents said back arms from spreading relative to each other, said linear polyethylene hanger means being of limited flexibility and being capable of returning to the above defined shape after being manually stretched out of such shape and released.



2. A toilet bowl deodorizer comprising a block of compressed paradichlorbenzene, and hanger means formed of a resilient synthetic resin which is chemically inert to paradichlorbenzene, moisture, household cleaning agents, and secreted body fluids, said hanger means integrally including a pair of arms embedded at one end in and projecting from said block, said arms merging at the other end into laterally extending top bars, said top bars in turn merging at their remote ends into hook-forming back arms which are spaced laterally away from the pair of arms, said back arms being joined by a transversely extending connecting member which prevents said back arms from spreading relative to each other, said hanger means being of limited flexibility and being capable of returning to the above-defined shape after being manually stretched out of such shape and released.

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