United States Patent

[11] **3,591,868**

[72] Inventor **Walter K. Owens**
P.O. Box 5641, Pensacola, Fla. 32505

[21] Appl. No. **830,713**
[22] Filed **June 5, 1969**
[45] Patented **July 13, 1971**

[54] **COMMODE STRUCTURE**
3 Claims, 4 Drawing Figs.

[52] **U.S. Cl.** **4/14,** 4/20, 4/26
[51] **Int. Cl.** **E03d 11/02,** E03d 11/18
[50] **Field of Search** 4/1, 3, 10, 69, 26

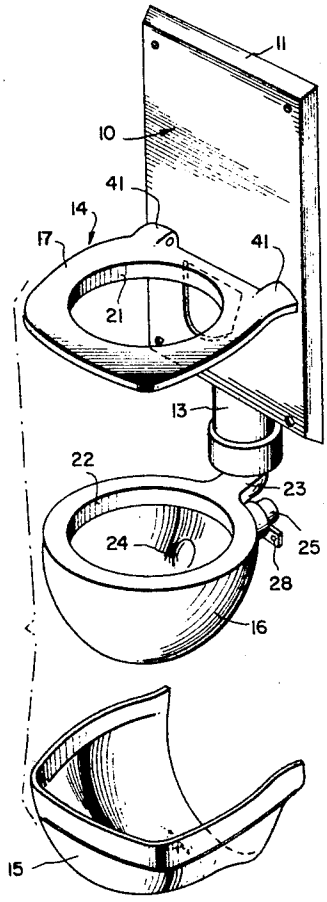
[56] **References Cited**

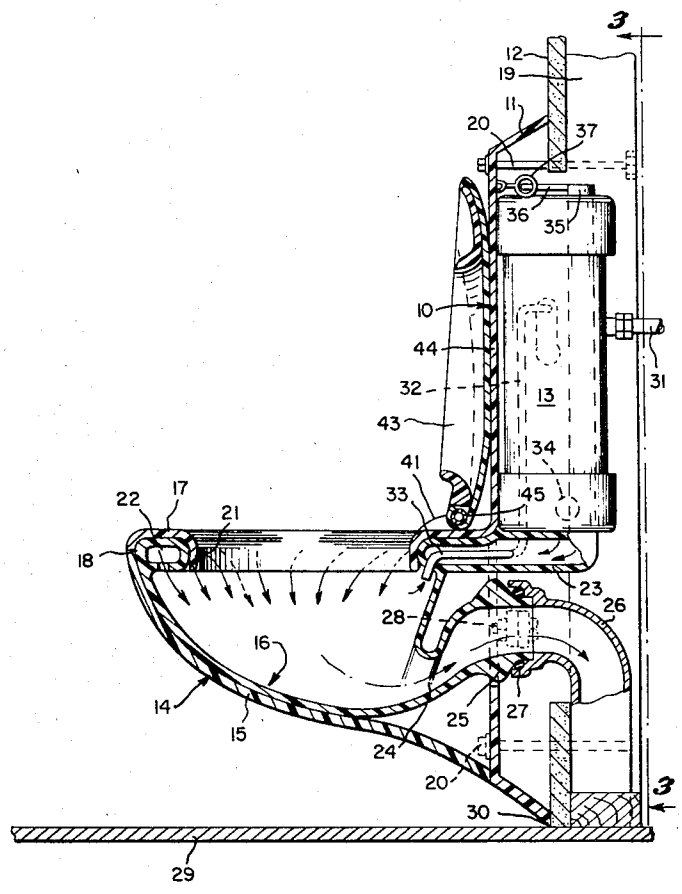
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Primary Examiner—Laverne D. Geiger
Assistant Examiner—Henry K. Artis
Attorney—B. P. Fishburne, Jr.

ABSTRACT: A substantially all-plastic commode of simplified construction suitable for boats, homes or commercial installations. The commode is wall-mounted with a very compact pressure flushing tank recessed into the wall behind a shallow housing member. A minimum number of components are employed.





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Fig. 1.

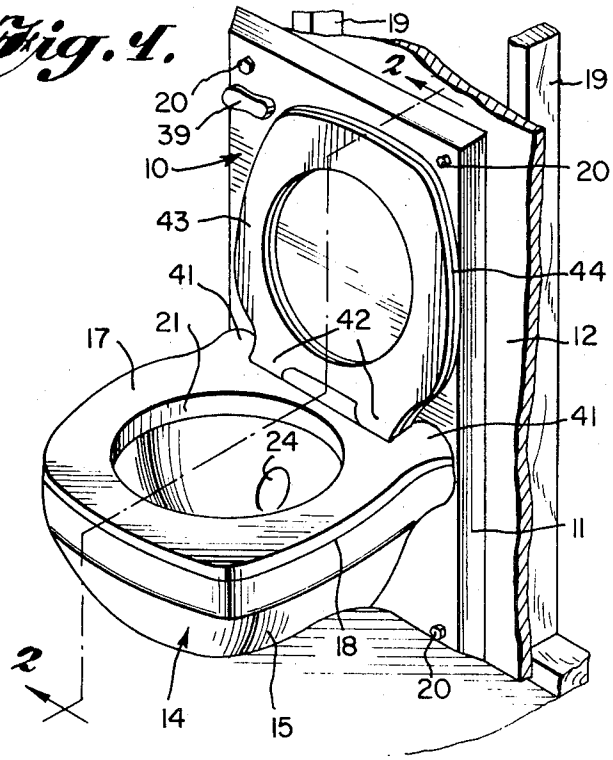


Fig. 2.

INVENTOR

WALTER K. OWENS

BY B. P. Williamson Jr.

ATTORNEY

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Fig. 3.

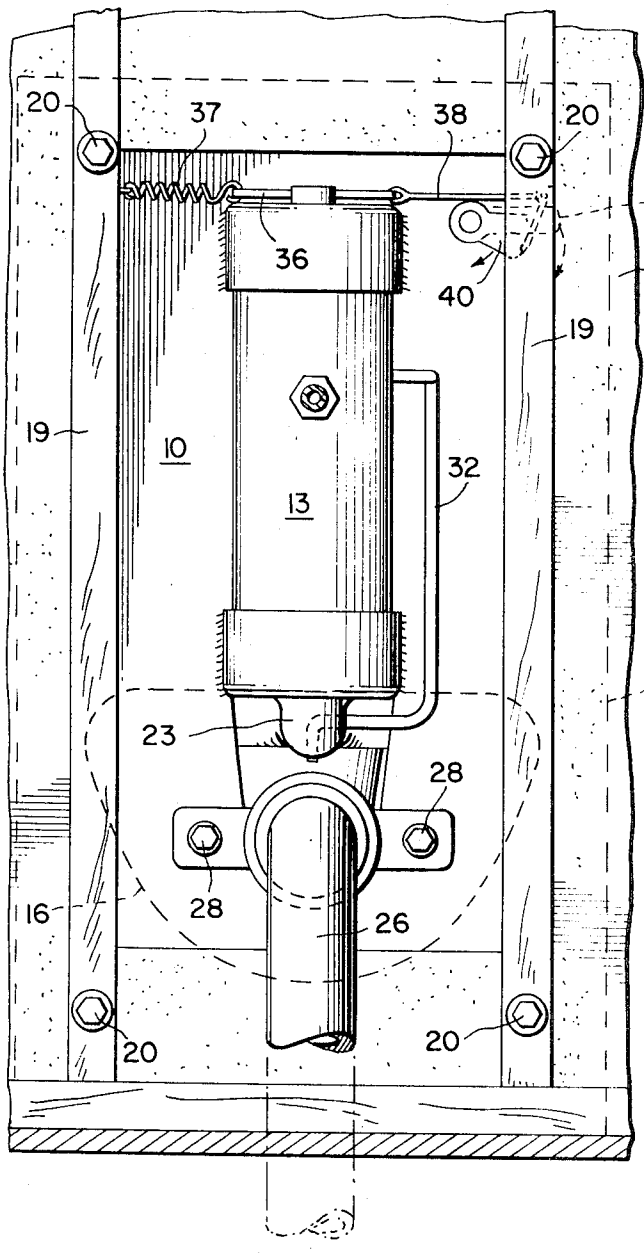
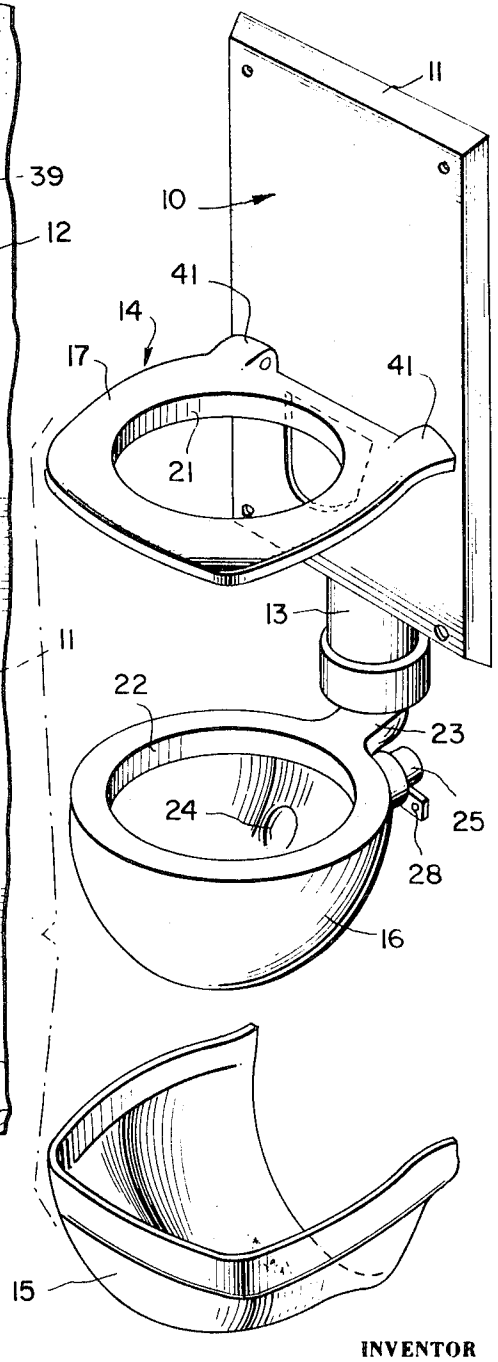


Fig. 4.



INVENTOR
WALTER K. OWENS

BY B. P. Fishburn, Jr.

ATTORNEYS

COMMODE STRUCTURE

The objective of the invention is to satisfy the need for an inexpensive sturdy and relatively maintenance-free commode for use instead of traditional fixtures which are highly expensive and usually bulky and require frequent maintenance.

The present commode structure utilizes a simplified sealed pressure flushing unit disclosed and claimed in copending application U.S. Pat. Ser. No. 825,786, filed May 19, 1969.

The commode structure embodies only three major molded plastic components in addition to the plastic sealed pressure flushing tank and is economical to manufacture, can be produced in a variety of decorator colors and is extremely neat in appearance and meets all sanitary requirements.

DESCRIPTION OF DRAWING FIGURES

FIG. 1 is a perspective view of a fully assembled commode embodying the invention.

FIG. 2 is an enlarged central vertical section taken on line 2–2 of FIG. 1.

FIG. 3 is a fragmentary rear elevational view taken on line 3–3 of FIG. 2.

FIG. 4 is an exploded perspective view of the major components of the commode.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

Referring to the drawings in detail, wherein like numerals are employed to designate like parts, the structure comprises a mounting panel **10** which forms the primary support for the commode when attached to a wall. The mounting panel **10** is essentially rectangular with a flared continuous rearwardly projecting marginal flange **11** directly abutting a wall **12** when the commode is installed, as shown. The marginal flange **11** imparts to the panel **10** the ability to form a shallow housing forwardly of the wall **12** for the partial enclosure of a compact upright cylindrical pressure flush tank **13**, the details of which are disclosed in said copending application and are not important to this application which is concerned solely with the construction and mounting of the commode.

Referring to FIGS. **1** and **4**, the mounting panel or housing **10** carries a forwardly extending shell **14** integrated therewith during the manufacturing process but consisting initially of a lower shell component **15** to surround the commode bowl **16**, yet to be described, and an upper cover section **17** shown permanently assembled with the lower shell portion **15** in FIG. **1**. In some cases, the entire shell **14** composed of the elements **15** and **17** may be initially molded as one part together with the panel or housing **10**, rather than in two parts as shown in FIG. **4** having a parting line **18**, FIG. **1**.

In any event, after assembling of the commode by known techniques, the mounting panel **10** with the outer shell **14** integrated therewith forms the support for the bowl **16** and associated flush tank **13** and related parts. The panel **10** is securely attached to wall studs **19**, FIG. **2**, by at least four corner bolts **20**, as indicated.

Continuing to refer to the drawings, the commode bowl **16** is fitted inside of the shell **14** having components **15** and **17** as described and the shell portion **15** conforms to the shape of the bowl **16** contacting and supporting the same over a large surface area, as shown in FIG. **2**. The shell cover portion **17** has an internal depending flange **21** defining an opening leading into the bowl **16** at the top thereof and this flange is disposed inwardly of a hollow flushing ring **22** provided around the top of the bowl **16** and communicating with a water intake manifold extension **23** on the rear of the bowl and being integral therewith. All of the components are formed of plastic as previously mentioned to facilitate molding and sealing and assembling by known techniques.

The bowl **16** is further provided at its rear side and beneath the intake manifold **23** with the usual trap **24** and outlet pipe extension **25**, coupled to a soil pipe elbow **26** rising through the wall structure and being sealed by a suitable ring seal **27** or the like. The coupling means for the elbow **26** and extension **25** are indicated at **28** in the drawings. This coupling means also stabilizes and strengthens the assembly but the weight on the commode is borne primarily by the panel or housing **10** which extends entirely to the floor **29** and reacts thereagainst at **30**, FIG. **2**.

As fully disclosed in said copending application, the plastic flush tank **13** is coupled with the manifold **23** and lies immediately rearwardly of the shallow housing **10** and is partly recessed into the wall **12**. A water inlet pipe **31** is coupled into the rear side of the tank **13** and the tank also has a valved overflow tube **32** having an extension **33** leading into the bowl **16**, FIG. **2**. The flushing tank contains a floatable ball valve element **34** adapted to be unseated by the rotation of a sleeve valve means **35** under control of a bellcrank **36**, connected with a spring **37** and an operating cable **38**, all fully described in the copending application. The sleeve valve means **35** is turned to unseat the ball **34** and flush the commode by means of an operating handle **39** on the front of the housing **10** having a crank **40** on the inner face of the housing secured to the cable **38**. The spring **37** biases the sleeve valve means **35** to a nonflushing position where the ball element **34** is seated as shown in FIG. **2** and blocks the flow of water into the commode bowl.

The plastic shell cover **17** has apertured lugs **41** molded thereon to interfit with hinge knuckles **42** of a plastic commode seat **43** having a hinged lid or cover **44**. A suitable pintle or shaft **45** engages through the knuckles **41** and **42** conventionally.

It should now be apparent that a lightweight, economical and sturdy wall-mounted commode structure is provided, formed substantially entirely of plastic parts or plastic reinforced with fiberglass or the like, if preferred. The structure is extremely compact in that the slender pressure flushing tank **13** requires little room and may be concealed by the shallow housing **10** which also serves as a sturdy wall suspended support for the commode, together with the outer shell **14**, as best shown in FIG. **2**. The structure is ideally suited for boats and homes particularly of the more economical type but is in no sense limited to these applications. A particularly unique feature is the formation of the supporting and enclosing unit consisting of the panel **10** and shell components **15** and **17** which surround and enclose and lend added support to the bowl **16**.

I claim:

1. A substantially all-plastic commode comprising sealed pressurized flush tank means recessed into an adjacent wall structure, a plastic mounting panel secured to the exterior of the wall structure in covering relationship to the flush tank means and concealing the latter, and a plastic toilet supported bodily upon the plastic mounting panel and projecting forwardly thereof and having a bowl portion, the bowl portion of the toilet having a rear soil pipe connection and said plastic mounting panel having an opening for said connection, said bowl also adapted for connection with the sealed pressurized flush tank means through the same opening in said panel.

2. The structure of claim 1, and said toilet comprising an interior plastic bowl directly connected to the flush tank means and soil pipe, a separately formed outer shell for the bowl underlying the bowl and substantially enclosing it and having an open rear end and an open top, the open rear end of the shell joined to the front face of the mounting panel and the open top of the shell extending near the top margin of the bowl, a covering member secured integrally to the mounting panel and projecting forwardly thereof and conforming substantially in shape to the top rim of the bowl and covering the top rim and substantially abutting the top edge of said shell and joined thereto.

3. The structure of claim 2, and a plastic seat cover assembly hinged to said covering member and adapted to be raised and lowered.