July 14, 1936. A. R. GROSS 2,047,866

MARINE TOILET

Filed March 25, 1936

Fig. 1.

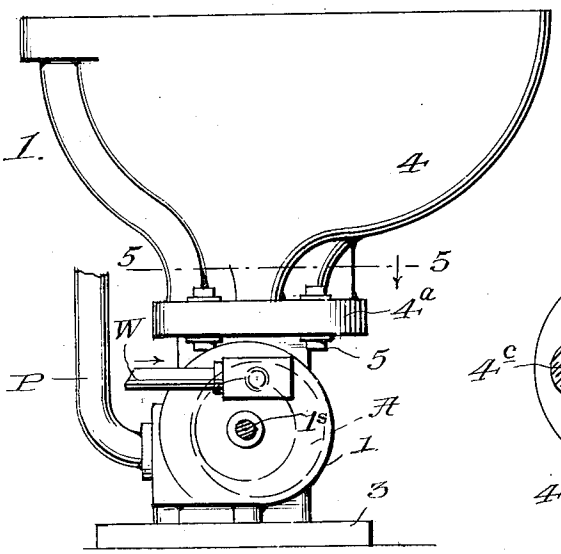


Fig. 5.

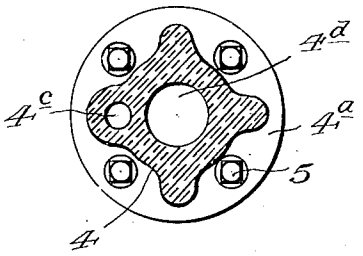


Fig. 2.

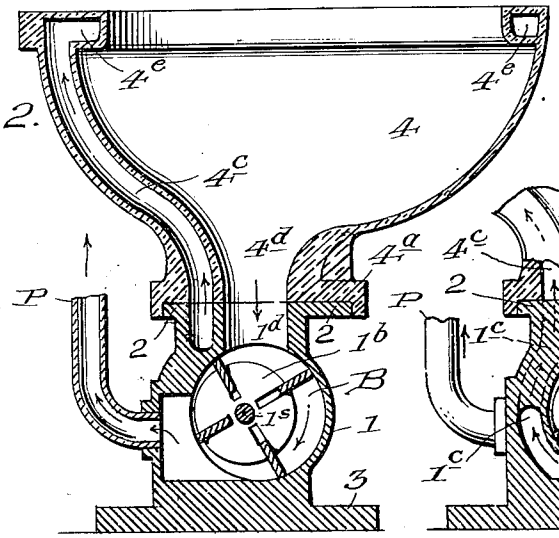


Fig. 3.

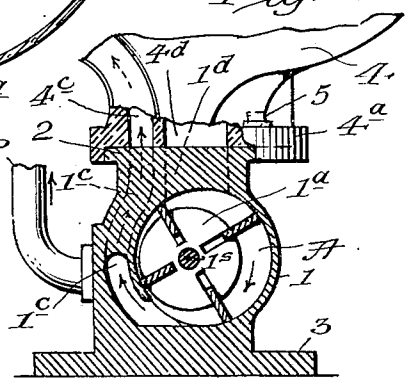
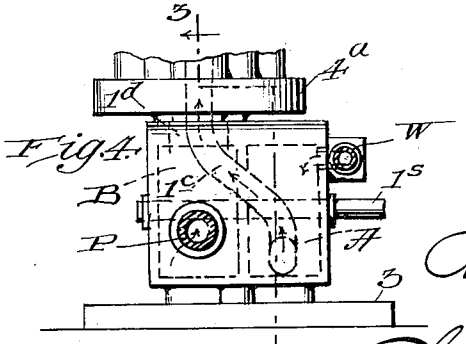


Fig. 4.



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Patented July 14, 1936 2,047,866

UNITED STATES PATENT OFFICE

2,047,866

MARINE TOILET

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Application March 25, 1936, Serial No. 70,867

7 Claims. (Cl. 4—77)

This invention is an improvement in water-closets, and its principal object is to provide a very simple water-closet for use on boats and yachts, that will operate efficiently below the water line and can be installed cheaply and easily.

A further object is to do away with many pipe fittings and joints heretofore required in installing marine water-closets; thereby lessening the cost and time required for installation, and also reducing maintenance charges.

The invention includes a lower pump section, and an upper bowl section which are interrelated and interdependent. The pump section supports the bowl section which is directly mounted upon the pump section. After the pump section is secured in place and connected to the water supply and discharge pipe, the mere fastening of the bowl section upon the pump section completes the water supply and refuse discharge connections between the sections without requiring any placing or adjustments of pipe connections between the sections.

The accompanying drawing illustrates one practical embodiment of my invention, and I will describe the same with reference thereto; and summarize in the appended claims the essentials of the invention and novel constructions and combinations of parts for which protection is desired.

In said drawing:—

Fig. 1 is a side elevation of a water-closet embodying my invention. Fig. 2 is a vertical sectional view thereof. Fig. 3 is a vertical section on the line 3—3, Fig. 4. Fig. 4 is a detail side view of the pump section; and Fig. 5 is a detail transverse section on the line 5—5, Fig. 1.

In the construction shown, the base section 1 has a water pump chamber A and a discharge pump chamber B, which are preferably disposed horizontally end to end; and through these chambers passes a shaft 1*s* upon which are mounted the pistons 1*a* and 1*b* in the respective chambers. The pump pistons may be of any suitable construction. As shown the pistons are provided with radially movable blades; but the invention is not restricted to this particular type of pump.

Water may be admitted into the inlet of chamber A by a supply pipe W; and is discharged from chamber A through a duct 1*c* in the wall of the base section, said duct extending to the top of the pump section and directly communicating with a duct 4*c* in the bowl section as shown in Fig. 2.

The discharge pump chamber B has an inlet opening 1*d* in the top of the base section connecting directly with the bowl outlet opening. The material is discharged from the outlet of chamber 1*b* into a waste pipe P, by which it is conducted to the desired point of discharge.

The base section is preferably provided with an exterior flange 2 at its upper end, and may be provided with a base portion 3 of any suitable contour to enable it to be readily secured to the floor or support upon which the closet is to be mounted.

The bowl section 4 is supported on the upper end of the base section, and in general appearance resembles an ordinary toilet bowl; it is preferably provided with a base flange 4*a* corresponding in exterior contour to the flanged top of the base section, and the flanges 4*a* and 2 are perforated at coincident points for the passage of retaining bolts 5 by which the base section and bowl section are rigidly secured together, the bowl being directly supported upon and above the base, and the outlet opening 4*d* in the lower end of the bowl registers with the inlet opening 1*d* of the pump chamber B.

The bowl section is provided with a duct 4*c* in its rear side the lower end of which directly registers with the upper end of the duct 1*c* leading from the pump chamber A; and the upper end of duct 4*c* communicates with a water distributing duct 4*e* around the upper edge of the bowl.

The pump shaft may be operated by any suitable means; preferably an electric motor; but the particular means employed for operating the pump is not a feature of the present invention and therefore it is unnecessary to illustrate or describe same.

To install the closet, the pump section is secured in position at the place where it is desired to locate the toilet, and the inlet of pump chamber A is connected to a water supply pipe W; and the outlet of chamber B is connected to a discharge pipe P. The bowl is then bolted on top of the pump section, and the job is complete.

When it is desired to use the apparatus, the pump shaft is actuated and water is drawn from the supply pipe W into chamber A and discharged through the ducts 1*c* and 4*c* into the bowl; and simultaneously the contents of the bowl are withdrawn through the openings 4*d* and 1*d* into the pump chamber B, and discharged therefrom into the pipe P, which leads to the point of discharge, or connects with a pipe leading to such point. The point of discharge may

be below the water line as the pump B will overcome the back pressure of the exterior water.

The construction illustrated has been practically used and has been found exceedingly efficient.

I claim:—

1. In a marine water-closet; a base section containing a water pump having an outlet opening through the top of the base section; and a bowl mounted upon the base section and having a water duct directly registering with the outlet opening of the water pump.

2. A marine water-closet comprising; a base section containing a water pump and a discharge pump, and a duct leading from the water pump, the discharge pump having its inlet opening through the top of the base; and a bowl section mounted upon the base section and having its outlet registering with the inlet of the discharge pump, and a water duct connecting with the said water duct in the base section.

3. A marine water-closet comprising; a base section containing a water pump and a discharge pump, a discharge duct leading from the water pump to the top of the section, an inlet to the discharge pump in its top, and an outlet from the discharge pump; and a bowl section mounted directly upon said base section and having a water distributing duct, a supply duct directly connecting said distributing duct with the discharge duct of the water pump; and an outlet directly registering with the inlet of the discharge pump.

4. In a marine water-closet comprising; a base section having a water pump and a discharge pump, a duct leading from the water pump outlet to the top of the base, and an inlet to the discharge pump opening through the top of the base; and a bowl mounted upon the base section and having its outlet registering with the inlet opening of the discharge pump, and a water duct registering with the upper end of the water duct and a distributing duct in the bowl connecting with the said water duct.

5. A marine water-closet comprising; a base member containing a water pump and a discharge pump, an inlet to the water pump and a discharge duct leading from the water pump to the top of the base member, an inlet to the discharge pump in its top, and an outlet from the discharge pump; and a bowl mounted upon and secured to said base member and having a water distributing duct, a supply duct connecting said distributing duct with the discharge duct of the water pump, and an outlet communicating with the inlet opening to the discharge pump.

6. A marine water-closet comprising a base section and a bowl section; said base section having a water pump and a discharge chamber; a water duct leading from the water pump chamber to the upper end of the base, and an inlet to the discharge pumping chamber opening through the top of the base; said bowl section being mounted upon the base section and having an outlet opening registering with the inlet opening of the discharge pumping chamber, a water distributing duct in the upper part of the bowl, and a water duct registering at its lower end with the water duct in the base and connecting with said distributing duct.

7. A marine water-closet comprising a base section and a bowl section; said base section having a water pumping chamber and a discharge pump chamber, a water duct leading from the water pumping chamber to the upper end of the base section, and an inlet to the discharge pumping chamber opening through the top of said base section; said bowl section being mounted directly upon the base section and having an outlet opening registering with the inlet opening of the discharge pumping chamber, a water duct registering at its lower end with the water duct in the base, a water distributing duct in the upper part of the bowl connecting with the water duct in the bowl; a water supply pipe connected with the inlet of the water pumping chamber; and a discharge pipe connected with the outlet of the discharge pumping chamber.

ANGUS R. GROSS.