Jan. 27, 1959 R. R. LOVETT, JR 2,870,785

SYPHON BAILER FOR BOATS

Filed Jan. 14, 1955

FIG. 1.

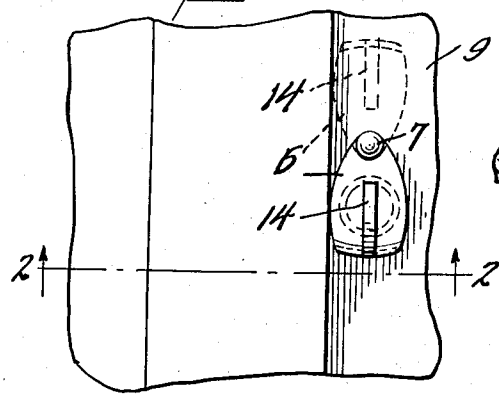


FIG. 2.

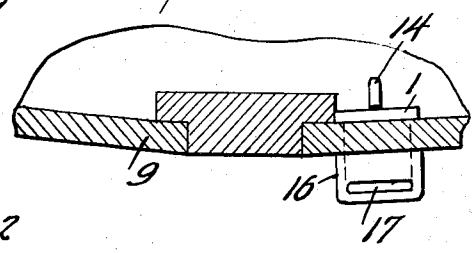


FIG. 4.

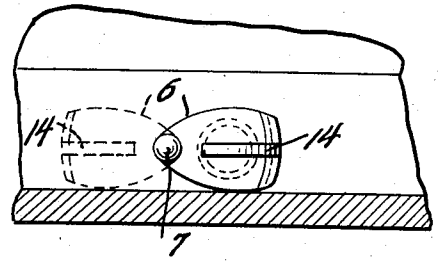


FIG. 3.

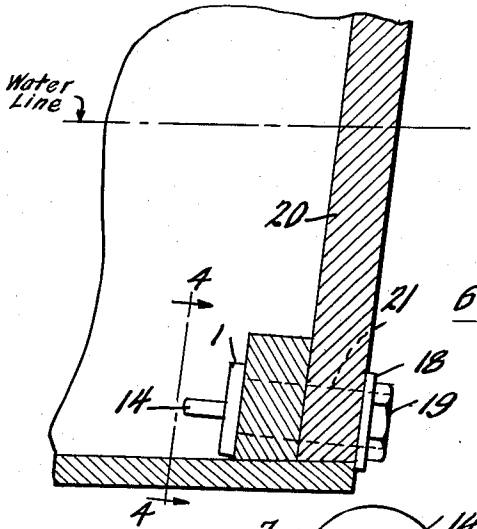


FIG. 5.

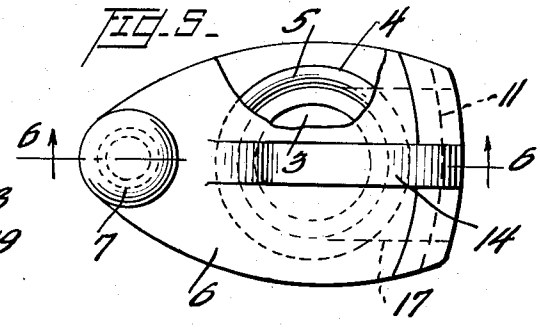


FIG. 6.

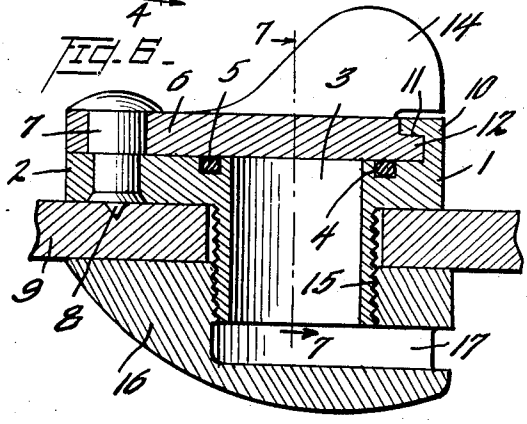
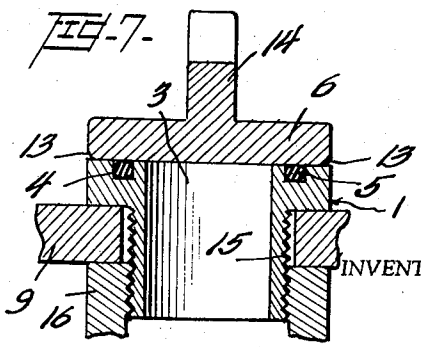


FIG. 7.



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SYPHON BAILER FOR BOATS

Richard R. Lovett, Jr., Longport, N. J.

Application January 14, 1955, Serial No. 481,858

1 Claim. (Cl. 137—560)

My invention relates to new and useful improvements in a syphon bailer for boats, and has for an object to provide a bailer that is simple in construction, easily installed, and relatively cheap to manufacture.

As is well known, boats often collect water in their bilges, and to remove this water it is pumped out, either by hand or with an automatic pump or a syphon-type bailer.

When a boat travels through or over the water there is a vacuum created behind the stern, and the present bailer is of the syphon type so that the reduced air pressure behind the stern will syphon the water from the bilge while the boat is traveling, the rate of discharge, of course, depending on the speed of the boat.

Another object of the invention is to provide a bailer with a swinging gate type of valve that is simple in construction, the gate in turn bearing against an O-ring to thus tightly seal the bailer when the boat is not running.

Another object of the invention is to provide a syphon bailer where it may extend through the stern and be held by a washer and lock nut, or be provided with a streamlined syphon fitting cap when the syphon is to be mounted in the bottom of the boat.

With these and other objects in view, the invention consists in certain new and novel arrangements and combinations of parts as will be hereinafter more fully described and pointed out in the claim.

Referring to the drawings, showing a bailer, both in the form used in the stern and in the form used in the bottom of the boat,

Fig. 1 is a top plan view, showing a fragmentary portion of the bottom of a boat with the syphon installed in the bottom, the dotted lines showing how the gate is to be swung when the syphon is functioning,

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1,

Fig. 3 is a fragmentary vertical sectional view showing the syphon bailer as attached to the stern of a boat,

Fig. 4 is a section taken on line 4—4 of Fig. 3,

Fig. 5 is a top plan view of the syphon with parts broken away to show the O-ring,

Fig. 6 is a vertical sectional view showing the syphon cap for use with the bailer when it is mounted in the bottom of the boat, and

Fig. 7 is a sectional view taken on line 7—7 of Fig. 6.

Hereafter throughout the specification, the form shown in Figs. 1, 2 and 6 will be referred to as the "preferred" form, that is, where the syphon bailer is mounted in the bottom of the boat rather than in the stern, as shown in Fig. 3.

It will be understood that the only difference is that in the so-called "preferred" form, there is a cap with a discharge passage extending at right angles to the bailer and facing the stern, whereas in the other form, the bailer just extends through a hole in the stern and a lock nut is used rather than a syphon fitting cap.

Referring now for the moment to Fig. 6, there will be seen the bailer, preferably of bronze, ovate in top plan

(see Fig. 5) with a head 1, body 2, and the central bore 3. There is a small groove 4 in the head 1 concentric with the bore 3 in which groove 4 is to be mounted what is commonly known as an O-ring 5.

As is well known, an O-ring is formed of rubber and preferably of a synthetic rubber which will compress easily and form a tight seal when it is compressed. In practice I have found that a ring that extends about five thousandths of an inch (.005") above the upper surface of the head 1 is most satisfactory.

Pivoted to the head 1 is a swinging gate 6 which is held in place by a rivet 7 which has a sharp projection 8 at the lower end to extend within the board 9 of the bottom of the boat to thus prevent any turning action of the bailer.

Now it will be noticed that the bailer at its rear end, as viewed from Fig. 5, has an upwardly extending arcuate in top plan projection 10 in which is formed the groove or rabbet 11, while the rear end 12 of the gate 6 is cut away to fit within this groove 11; and it might be mentioned, to fit tightly, or in other words, hold the gate 6 tightly against the O-ring 5 and the head 1.

Thus, when the gate 6 is shut it is held tightly at one end by its rivet 7 and held tightly within the groove 11 in the projection 10 so that there is always considerable pressure exerted against the O-ring 5.

It will also be noticed, in Fig. 7, that the rear end of the gate 6 is chamferred as at 13 on its lower edge so that there is no chance of a cutting action when the gate 6 contacts with the O-ring 5 to compress it.

On the top of the gate 6 is the integral lug or thumb-piece 14 so that this gate 6 may be opened or closed by holding the lug or thumb-piece 14 with the thumb and fingers.

Also, it might be mentioned that when this O-ring 5 is wet it offers less resistance to the gate 6 sliding over it, so that although the gate 6 is held tightly against the upper surface of the head 1, it can be manipulated easily with the one hand.

Thus, when the gate 6 is in its closed position, the O-ring 5 effectively seals the bore 3 without the necessity for a ground joint, which might stick or corrode after being in the water for some length of time.

Now the body 2 from about midway of its length is externally threaded, as shown at 15, and after the hole is bored through the bottom of the boat, there is fitted an internally threaded syphon cap 16 which is streamlined or curved from the bow towards the stern, there being a vent or opening 17 formed therein, which may also be seen in Figs. 2 and 6, so that to thus tightly hold the syphon bailer in place and also to create a vacuum to the rear of the cap 16 and thus, of course, reduce the air pressure and cause the water, when the gate valve is open, to syphon or be entrained out through the discharge passage 17, the rate being of course in direct proportion to the speed of the boat.

It will also be seen that the syphon bailer may be quickly and readily installed and that the O-ring, should it ever wear after long service, may be removed, it only being necessary to swing back the upper gate, pick the O-ring out with a pin or any other small tool, and press a new O-ring into place.

Now, referring to what I term the "modified" form, or, in reality the same form as the "preferred" form, but with a different adaptation, rather than having a streamlined or curved syphon cap 16, this is dispensed with; and to hold the bailer in place a washer 18 and a lock nut 19 are threaded on the body portion 2 of the bailer.

This adaptation is shown in Fig. 3, where there is a fragmentary portion of the stern 20 shown through which is drilled a hole 21, the bailer fitted in place and held by the aforementioned washer 18 and nut 19.

Of course, the bailer is mounted below the water line so that the water may be syphoned or entrained from the bilge or bottom of the boat when the boat is running.

It will be understood that the bailer is sold with both forms of fastenings so that the purchaser may mount it in the stern (as shown in Fig. 3) or in the bottom of the boat (as shown in Figs. 2 and 6).

From the foregoing it will be seen that I have provided a bailer that is to function when the boat is in motion.

I am aware that there are bailers that act on the same principle as mine, but as far as I know they all have plugs that may be lost, or handles that may be tripped over, or others where the whole construction is not nearly so inexpensive to purchase and install.

I have found in actual practice that the bailer does not corrode or rust; will always be leakproof, that is, until such time as the O-ring might wear, and then it is but a matter of a moment to replace the worn O-ring with a new one.

Many slight changes might be made without departing from the spirit and scope of the invention.

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

In a syphon bailer, a body portion having a central bore open at its opposite ends; a head formed integral with the body portion, the head being ovate in top plan; a groove formed in the head and concentric with the bore; an O-ring in said groove and extending slightly above the top surface of the head; a gate corresponding in outline to the head, pivoted at its one end to the head; the head provided with an upwardly extending projection at its bottom end, arcuate in top plan and rabbeted throughout its length; the gate at its free end cut out to tightly fit within the rabbet; the under opposite side edges of the gate being slightly chamfered; the gate having an upwardly extending thumbpiece; the O-ring and the gate forming a tight seal about the bore when the gate is in its closed position and compressing the O-ring; the bottom of the syphon being externally threaded; an internally threaded streamline cap having a discharge passage therein, the discharge passage in the cap disposed at right angles to the bore when attached, the cap adapted to tightly hold the syphon in place and assist in the syphoning action of the bailer; and the gate when open allowing the water to flow through the central bore in the head and discharge through the aforementioned discharge passage.

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