

C. L. HOFFMAN.
ALARM FOR BOATS.
APPLICATION FILED JAN. 28, 1910.

1,012,852.

Patented Dec. 26, 1911.

Fig. 1.

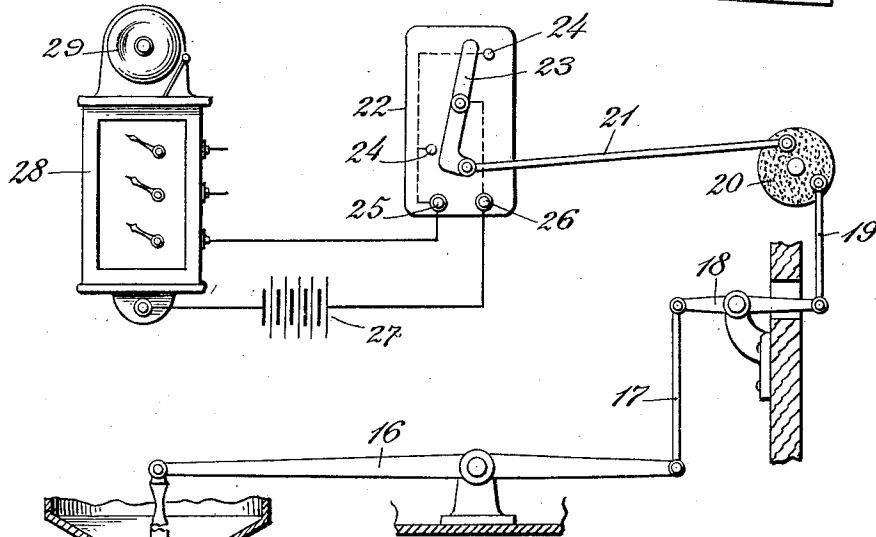
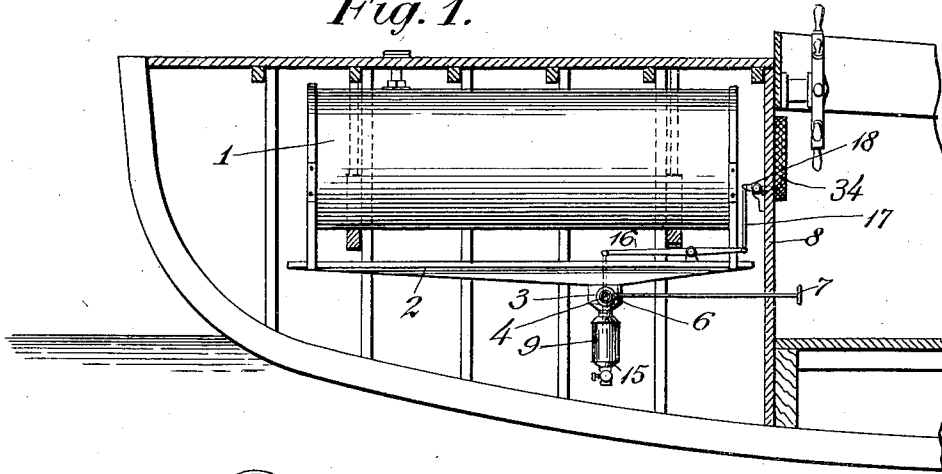
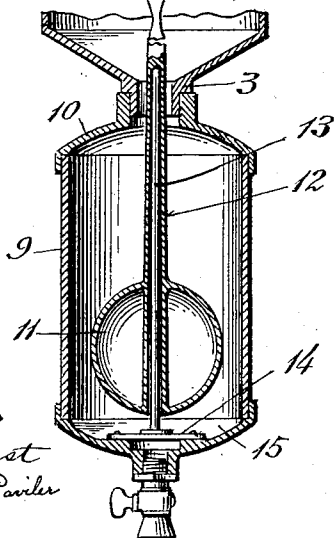


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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ALARM FOR BOATS.

1,012,852.

Specification of Letters Patent.

Patented Dec. 26, 1911.

Application filed January 28, 1910. Serial No. 540,559.

To all whom it may concern:

Be it known that I, CLARENCE L. HOFFMAN, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Alarms for Boats, of which the following is a specification, reference being had therein to the accompanying drawings.

In the construction of motor boats it is desirable to have some means for giving a warning of leakage in the fuel tanks.

This invention relates to an alarm adapted to notify the boat operator both by sight and sound of the existence of a leak in any of the fuel tanks of the boat.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claim.

In the drawings, Figure 1 is a view, partly in elevation and partly in longitudinal section, of the forward part of the boat showing the disposition of the apparatus, and Fig. 2 is a diagrammatic view in detail of a drip basin, its float, and an electric switch operated thereby.

Referring to the drawings, 1 indicates a forward fuel tank supported in the usual manner near the bow of the boat and provided with a drip pan 2 that is adapted to direct all waste from the tank to a suitable fitting 3 and drain pipe 4 opening outside of the skin of the boat, a suitable valve 6 arranged with the handle 7 that extends through the bulk head 8, being provided for closing the drain pipe. A steering wheel indicated at 35 and motor controlled mechanism is mounted on the bulk head 8 at a point convenient for the navigator of the boat. A drip basin 9 that is preferably cylindrical, is secured by its closed top 10 to the fitting 3 to receive a portion of the fluid discharged into the drip pan. A hollow float 11 that is preferably spherical, has a tubular stem 12 whose lower portion is longitudinally reciprocable on an axially disposed rod 13 secured at its lower end to a bridge 14 spanning the dished or hollow bottom 15 of the drip basin. The upper end of the stem 12 is pivotally secured to a lever 16 that is coupled by a link 17, second lever 18, push rod 19, bell crank or insu-

lating disk 20, and thrust rod 21 to throw an electric switch 22 when the float rises.

Obviously, the motion of the float may be communicated to the switch by any suitable mechanism, the one indicated being expedient for the particular arrangement illustrated herein. The switch lever 23 of the switch 22 is preferably arranged to contact with two oppositely disposed studs 24 connected in parallel with a binding post 25. The lever 23 is likewise electrically connected with a second post 26. The switch is in series with a battery 27 and one of the indicators of an annunciator 28 which is provided likewise with an alarm bell 29. Preferably the annunciator is placed near the control and steering station so that the party navigating the boat can see at a glance when any leakage exists. By this arrangement of parts, any escape of fuel sounds an alarm and indicates that a leak occurs, thereby enabling the operator to take proper precautions immediately; the arrangement of the long tubular stem of the float on the guide rod makes the float operative in all positions assumed by the boat, the oscillations and movements of the latter not preventing the movement of the float.

To prevent ignition of the gasoline from accidental grounding of the battery circuit through the mechanism between the float and switch, one of the members of said mechanism, as, for example, the bell crank or disk 20, is made of fiber or other non-conducting substance, and it is also advisable to inclose the exposed portions of the mechanism with a cage 34 of wire netting or like foraminous material.

Obviously, details of construction may be varied without departing from the spirit of the invention, and I do not limit myself to any particular form or arrangement of parts.

What I claim as my invention is:—

In a leak-indicator, the combination with a receiver, comprising a vertical cylindrical casing and a guide rod having its lower end secured to the bottom of said casing and unsupported at its upper end, of a float having an upwardly extending tubular stem closed at its upper end to protect the unsupported free end of said rod and movable thereon, a

normally open electric circuit comprising a source of energy and an indicator device and a circuit-closer therefor, and means permanently and directly connecting the closed
5 end of the float-stem with the circuit-closer to close said circuit by the rising movement of the float.

In testimony whereof I affix my signature in presence of two witnesses.

CLARENCE L. HOFFMAN.

Witnesses:

ANNA M. DORR,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."