No. 741,512. PATENTED OCT. 13, 1903.

C. H. LEE.

MARINE VESSEL.

APPLICATION FILED MAY 4, 1903.

NO MODEL.

Fig. 1.

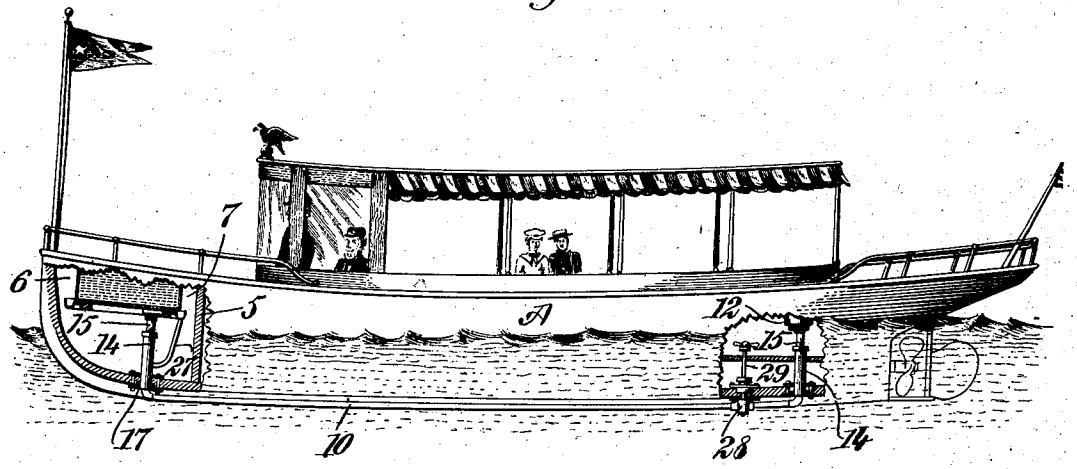


Fig. 2.

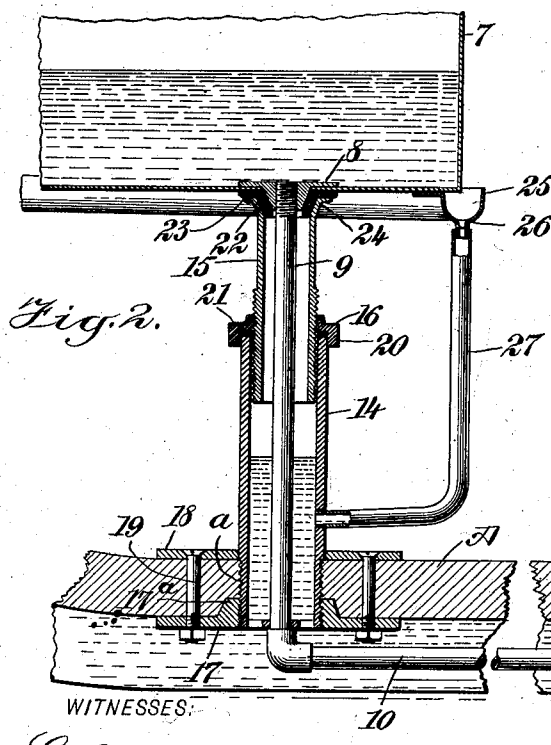
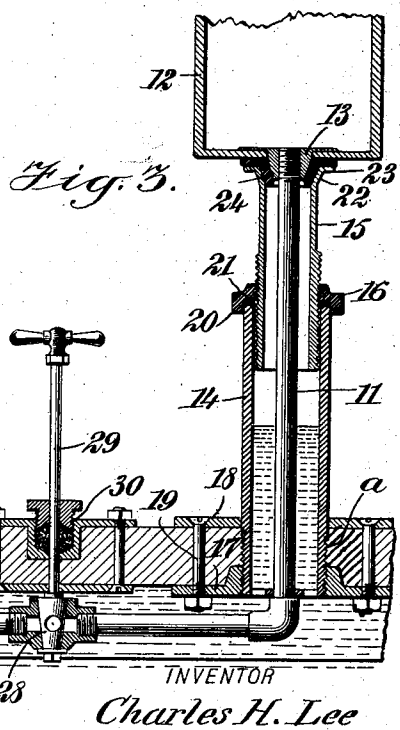


Fig. 3.



WITNESSES:

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No. 741,512. Patented October 13, 1903.

UNITED STATES PATENT OFFICE.

CHARLES H. LEE, OF SOUTHAMPTON, NEW YORK.

MARINE VESSEL.

SPECIFICATION forming part of Letters Patent No. 741,512, dated October 13, 1903.

Application filed May 4, 1903. Serial No. 155,522. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. LEE, a citizen of the United States, and a resident of Southampton, in the county of Suffolk and State of New York, have invented a new and Improved Marine Vessel, of which the following is a full, clear, and exact description.

My invention relates to marine vessels of that type wherein the motive power is furnished by an explosive-engine which requires the use of liquid fuel, pleasure craft of this class being commonly designated as "naphtha-launches," although I would have it understood that my improvements are not confined to this particular kind of marine vessels.

The object of the present improvement is to prevent liquid fuel from escaping into the hold or any interior part of the vessel, thus minimizing the danger of accident likely to result from explosion or ignition.

A further object is to so construct the parts that access may be obtained readily to the fuel-conveying pipe for inspection and repairs.

The broad features of my invention consist in the arrangement, outside of the hull, of the fuel-pipe which conveys liquid fuel from a storage-tank to the engine, in connection with devices by which an upstanding branch of this pipe is surrounded by a stand-pipe open to the water and serving to discharge leaking fuel into the water without any possibility whatsoever of said fuel escaping into the vessel's interior.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation, partly in section, of a marine vessel having my improvements applied thereto. Fig. 2 is an enlarged vertical sectional elevation showing the connections of the fuel-supply pipe with a fuel-tank, and Fig. 3 is another sectional elevation illustrating the means employed for connecting the fuel-supply pipe with a part of a motor and an externally-located valve for controlling the flow of fuel through said supply-pipe.

The forward end of the vessel has the usual collision-bulkhead 5, forming a compartment 6, which contains a tank 7 for the storage of liquid fuel. The bottom of this tank has a coupling-plate 8, united thereto in a suitable way, and to this plate is united the upstanding branch 9 of a fuel-supply pipe 10, the latter running lengthwise of the vessel, on the outside of the hull thereof, and close to one side of the keel, substantially as shown by the drawings. This pipe may be of any suitable length, and it runs from the fuel-tank located in the forward part of the vessel to a point close to the motor or engine for driving the screw-propeller, the rear end of said pipe having another upstanding branch 11, which is connected to a part of the engine—as, for instance, the carbureter, the position of which is indicated at 12. This part of the engine has a coupling-plate 13, into which is screwed the upper extremity of the branch 11, forming a part of the fuel-pipe 10. The two branches 9 11 of this fuel-pipe pass through stand-pipes which are fitted to the hull of the vessel to the tank 7 and to the carbureter 12 of the engine, said stand-pipes being open to the water in which the vessel is partly submerged. The stand-pipes for the branches 9 11 are similar in construction and arrangement, so that a description of one will answer for the other.

Each stand-pipe consists of two members 14 15, which are united at their meeting portions by a suitable form of coupling 16. The lower member 14 of the stand-pipe is attached to the hull in a way to communicate with the surrounding water, and in one embodiment of the invention the hull A is provided with an opening *a*. Against the outside of the hull is applied a plate 17, while a companion plate 18 is fitted to the inside of the hull, the two plates being united by bolts 19, which pass through the hull. The plates 17 18 are provided with openings which communicate with the opening *a* in the hull, and the external plate 17 is provided with a collar 17^a, having an internal or female thread into which is screwed the lower externally-threaded end of the member 14, forming a part of the stand-pipe. The upper member 15 of this stand-pipe is externally threaded for a part of its length, as shown more clearly by Figs. 2 and 3, and this threaded lower part of said upper pipe member is fitted loosely in the upper portion of the lower member 14. On the threaded part of said upper pipe member 15

is screwed the coupling 16, which is flanged, as at 20, in a way to embrace the pipe member 14, so as to rest thereon. The joint between the adjustable pipe member 15, the fixed pipe member 14, and the coupling 16 is made water-tight by the employment of a suitable gasket 21, which may be of leather or other material. The upper extremity of the member 15 forming a part of the stand-pipe is expanded at 22 and flanged at 23, and in this flanged end of the pipe member is fitted a flanged compressible gasket 24, the same being made of rubber or other yielding material and disposed to have engagement with the bottom of the tank 7.

As shown by Fig. 2, the compressible gasket 23 is fitted to a part of the coupling-plate 8 and to the flanged end of the stand-pipe member 15. The coupling 16 may be rotated on the pipe member 14 for the purpose of lifting the member 15, so as to compress the gasket 24 around the joint between the member 15 and the tank. At the same time this coupling 16 subjects the gasket 21 to pressure in a way to secure a tight joint between the members 14 15 and the coupling 16.

It will be observed that the upstanding branch of the fuel-pipe is surrounded by a two-part stand-pipe having its members connected in a way to prevent the passage of water between the pipe members and to secure a tight joint between one member of the stand-pipe and the tank. If any leakage of liquid fuel occurs, it takes place at the coupling between the tank and the fuel-pipe; but in my invention the leaking fluid flows into the stand-pipe, by which said fuel is conducted directly into the surrounding water, thereby effectually overcoming any escape of the fuel into the interior of the vessel. If it is desired to inspect or repair the joint between the tank and the fuel-pipe, it is only necessary to unscrew the coupling 16, so that it will take a position on the non-threaded upper part of the pipe member 15, whereupon this member will drop freely into the fixed pipe member 14, and thus withdraw said pipe member 15 from engagement with the tank. It is obvious that the packing 24 can be removed or that it will adjust itself with the pipe member 15, thus allowing the operator to examine the connection between the tank and the pipe branch 9 and to also repair the same. The member 15 may readily be restored to its operative position by screwing the coupling 16 on the threaded part of the pipe, said coupling serving to press the gasket 21 and compress the packing 24. As the branch 11 of the fuel-pipe attached to the part 12 of the engine is surrounded by a stand-pipe constructed similarly to the stand-pipe for the pipe branch 9, the operator is also able to inspect and repair the joint between said pipe branch 11 and the carbureter 12 of the engine. The tank 7 is also provided at its lower portion with a collecting gutter or trough 25, which may be attached to the bottom of the tank in a position to catch any fuel that may escape. This drain-gutter extends around the tank, and said gutter is provided at one point with a depressed pocket 26, with which communicates the upper portion of a drain-pipe 27, the latter having its lower extremity coupled to the stationary member 14 of the stand-pipe, whereby the fuel collected in the gutter 25 is discharged to the outside of the vessel. I have also provided the pipe 10 of the fuel-distributing system with a cut-off valve or cock 28, which is located externally of the vessel. This valve or cock may be of any kind known to those skilled in the art, and it is introduced in the line of the pipe 10 at a point between the branches 9 11, which connect the respective end portions of said fuel-pipe with the supply-tank and the engine. The movable element of the cock or valve is manipulated by a stem 29, which passes through a suitable stuffing-box 30 in the hull A, thus making provision for opening and closing the externally-located valve at a point within the boat. I do not, however, desire to limit myself to the special style of valve, the stuffing-box, nor the means for operating said valve, because these details may be modified by a skilled constructor.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a marine vessel, a system for supplying and distributing fuel to an engine, having a fuel-pipe located outside of the hull and provided with a branch extending into said hull, and a stand-pipe open to the water and surrounding said branch of the fuel-pipe.

2. In a marine vessel, a fuel-distributing system having an externally-located pipe and an upstanding branch, and a stand-pipe surrounding said branch and open to the water, said stand-pipe having members coupled separably together.

3. In a marine vessel, a fuel-distributing system having an externally-located pipe and an inwardly-extending branch, and a stand-pipe surrounding said branch and disposed between the vessel and the element or part to which the pipe branch is coupled.

4. In a marine vessel, the combination with an inwardly-extending branch of a fuel-pipe, of a sectional stand-pipe surrounding said pipe branch and open to the water, said stand-pipe having its members coupled to form a tight joint between themselves.

5. In a marine vessel, the combination with an inwardly-extending branch of a fuel-pipe, of a stand-pipe open to the water and surrounding said pipe branch, and means for securing a tight joint between said stand-pipe and the element or part to which the pipe branch is coupled.

6. In a marine vessel, the combination with an externally-located pipe having an inwardly-extending branch, of means inclosing said branch and open to the admission of water.

7. In a marine vessel, the combination with an element located in the vessel, of a pipe coupled to said element, and a stand-pipe inclosing said first-mentioned pipe and fitted by a tight joint to said element, said stand-pipe being withdrawable at will from engagement with said element.

8. In a marine vessel, a system for supplying and distributing liquid fuel to an engine, having an externally-located pipe, and a controlling valve or cock interposed in said pipe at a point between the source of supply and the engine, said valve or cock having means for manipulating the same at a point within the vessel.

9. A marine vessel having a fuel-tank, a pipe coupled to said tank, and a collecting-gutter on said tank and provided with a drain-pipe for discharging collected matter to the outside of the vessel.

10. A marine vessel having a fuel-tank, a fuel-pipe, a stand-pipe open to the water, a collecting-gutter in operative relation to the fuel-tank, and a drain-pipe communicating with said gutter and the stand-pipe.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES H. LEE.

Witnesses:
JNO. M. RITTER,
H. T. BERNHARD.