Sept. 6, 1927. 1,641,670

G. M. FRENCH

INTAKE

Filed Aug. 14. 1926

Fig. 1.

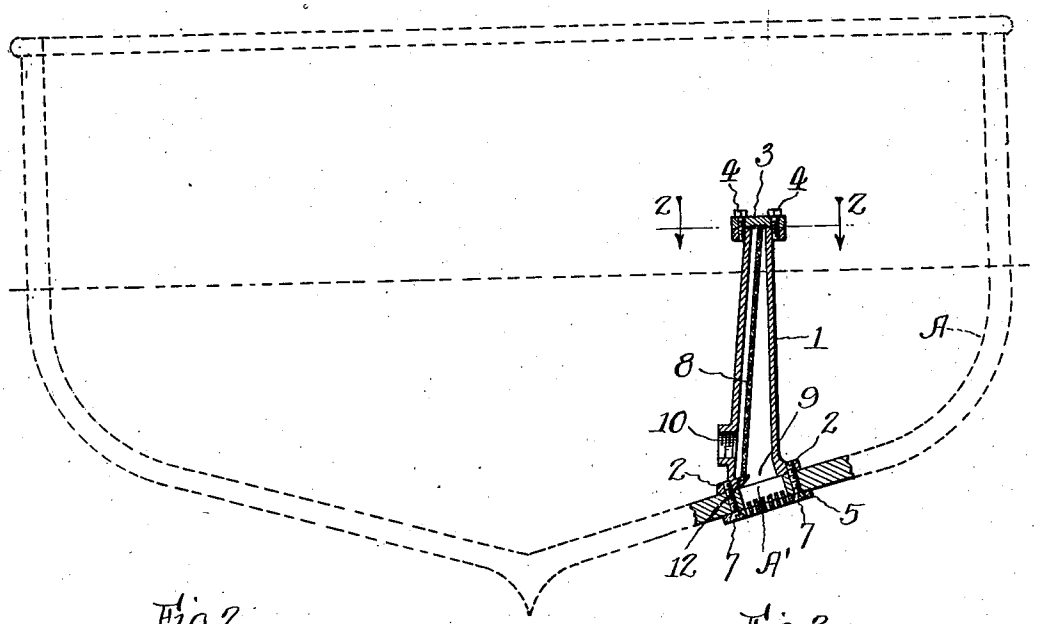


Fig. 2.

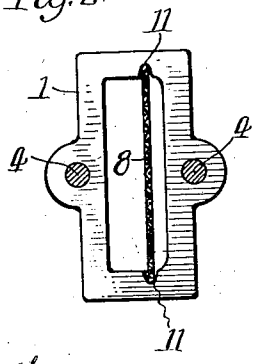


Fig. 3.

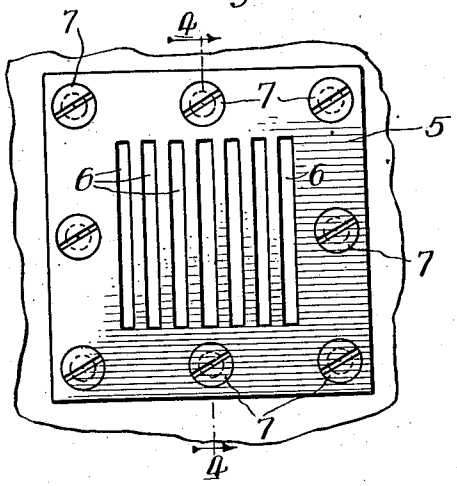
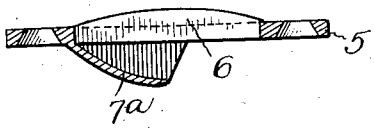


Fig. 4.



Fig. 5.



Inventor:
George M. French,
By Chindell Parker Carlson
Attys.

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UNITED STATES PATENT OFFICE.

GEORGE MARSHALL FRENCH, OF ST. JOSEPH, MICHIGAN.

INTAKE.

Application filed August 14, 1926. Serial No. 129,151.

This invention relates to an intake through which water may be drawn from the sea for any desired use on board ship, as, for example, for supplying water for the water jacket of a marine internal combustion engine. It is usual to connect the inlet side of the pump with an opening in the hull, the opening being covered by a strainer. The inlet opening being rather small, the velocity of the water entering the opening is relatively high, with a consequent tendency to pick up débris and thus clog the strainer. The strainer not being conveniently accessible, it is impracticable to keep the strainer clean.

Among the objects of the present invention are to provide an intake which shall permit the entrance of water at relatively low velocity, which shall permit of the use of a relatively large screen and thus render practicable the use of a finer screen than has heretofore been permissible, and which shall give ready access to the screen for cleaning or inspection.

In the accompanying drawings, Figure 1 is a vertical sectional view of an intake embodying the features of my invention, the intake being shown in operative relation to a boat hull.

Fig. 2 is a view taken in the plane of line 2—2 of Fig. 1.

Fig. 3 is an underside view of the water inlet.

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

Fig. 5 is a fragmental view illustrating an alternative construction.

In Figure 1, the hull or skin of a motor boat is indicated at A. 1 denotes an elongated vertically disposed casing tapering toward its upper end. In the form herein shown, the casing 1 is rectangular in cross-section. The lower end of the casing 1 is provided with flanges 2 by means of which the casing is secured to the inner side of the bottom of the hull in registry with an opening A′ extending through the hull. The opening A′ is below the water line. The casing 1 extends above the water line, its upper end being closed by a water tight closure, as for example, a plate 3 secured in place by screws 4. The lower or outer end of the opening A′ is covered by a strainer or grating consisting of a plate 5 having water inlet openings 6 therein. The casing 1 and the strainer plate 5 are secured in place by means of screws 7 or any other suitable means. When installed upon a speed boat, a scoop 7ª (Fig. 5) of common form may be used, if desired.

A screen or strainer 8 extends longitudinally of the casing 1 and divides the space in said casing into two compartments, one of which communicates with the inlet opening A′ through an opening 9 in the lower end of the casing and the other of which is connected to the intake side of the pump (not shown) by means of a nipple 10. The longitudinal edges of the screen 6 lie within grooves 11 in the inner side walls of the casing 1. The lower end of the screen rests upon the bottom of the casing 1 at 12.

In the form herein shown, the screen 8 extended to a point above the water level. As will be apparent from Fig. 1, all water must pass through the screen 8 in order to reach the suction opening 10. It will be seen that upon removing the cap 3, the operator may take hold of the upper end of the screen 8 and withdraw it from the casing 1 for inspection or cleaning.

The openings A′ and 9 are relatively large as compared with the intake opening heretofore commonly used, consequently water enters the casing 1 at relatively low velocity and therefore there is less tendency to pick up débris. The strainer or grating 5 may be relatively coarse, as it is not solely depended upon to keep débris out of the system. Because of the relative coarseness of the strainer 5, and the fact that the opening A′ is considerably larger than the suction opening 10, water flows through the strainer 5 under relatively low velocity, hence there is little tendency for débris to cling to the strainer.

By reason of the size of the scren 8 it is practicable to use a relatively small-mesh wire fabric, thus effectively excluding débris from the system without so restricting the passage as to cause the water to flow with high velocity. Due to the relatively low velocity of the water flowing through the screen 8, débris has little or no tendency to cling to the screen, but on the contrary, tends to fall out through the openings 9 and A′ when the engine stops.

I believe myself to be the first to produce a form of intake for marine purposes which permits access to the strainer from within the boat. It will be apparent that

the strainer may be removed for inspection or cleaning while the vessel is in the water.

I claim as my invention:

1. The combination of a hull having an opening below the water line, a vertically elongated casing within the hull, the lower end of said casing communicating with said opening and the upper end of the casing extending above the water line, and an elongated strainer extending from a point adjacent to said opening to a point above the water line, said casing having a suction opening in its lower portion at the side of the screen opposite to the first mentioned opening.

2. The combination of a hull having an opening below the water line, a casing within the hull, one end of said casing communicating with said opening, a portion of the casing extending above the water line, and a strainer extending within the casing to a point above the water line, said casing having a suction opening at the side of the screen opposite to the first mentioned opening.

3. The combination of a hull having an opening providing a water inlet below the water line, a casing within the hull, the lower end of said casing communicating with said opening and the upper end of the casing extending above the water line, said casing having a suction opening in its lower portion, the area of said suction opening being smaller than the area of the water inlet, and a strainer interposed between the water inlet and the suction opening.

4. The combination of a hull having an opening therethrough below the water line, a strainer covering the outer end of the opening, a casing within the hull having an opening communicating with the opening in the hull, said casing having a suction opening, and a strainer located within the casing and interposed between the second mentioned opening and the suction opening.

5. The combination of a hull having an opening therethrough below the water line, a relatively coarse strainer covering the outer end of the opening, a casing within the hull in communication with said opening, said casing having a suction opening in its lower portion, and a relatively fine strainer within the casing and interposed between the opening in the hull and the suction opening.

6. The combination of a hull having a water inlet opening below the water line, a casing within the hull communicating with said opening and extending above the water line, a water-tight closure for the casing, and a strainer within the casing, said strainer being removable through the upper end of the casing upon removal of said closure.

7. The combination, with a hull, of water intake means connected to the hull below the water line and open at all times to the ingress of water, and comprising a strainer located within the water intake means, said water intake means having an opening through which the strainer is withdrawable.

8. The combination of a hull having an opening providing a water inlet below the water line, a casing communicating with the inlet and having a suction opening of smaller area than the inlet, and a strainer interposed between the inlet and the suction opening, said strainer being of larger area than the inlet.

In testimony whereof, I have hereunto affixed my signature.

GEORGE MARSHALL FRENCH.