

C. OLIVER & O. G. JACOBSON.
 PROPELLING MECHANISM.
 APPLICATION FILED APR. 13, 1912.

1,061,110.

Patented May 6, 1913.

2 SHEETS—SHEET 1.

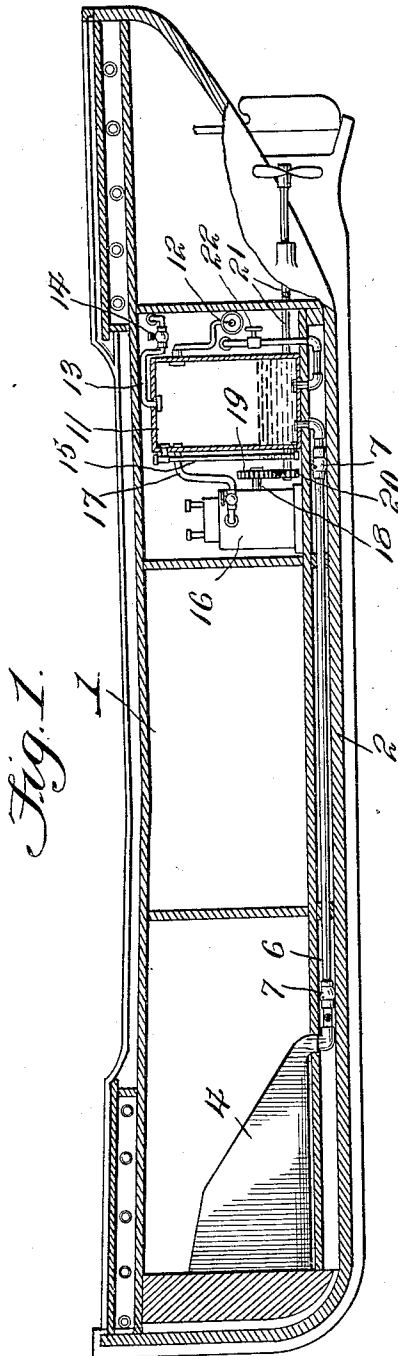


Fig. 1.

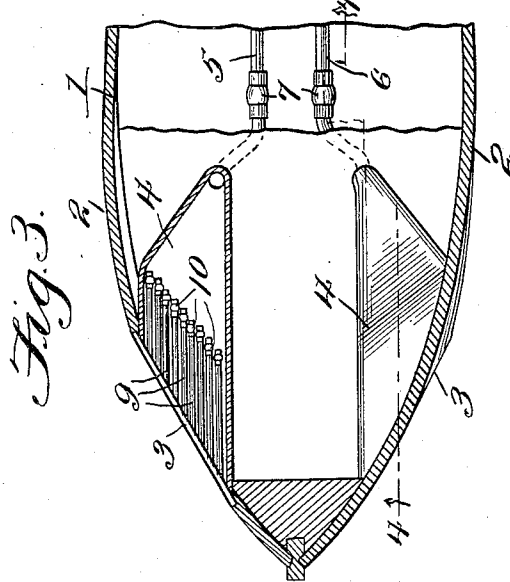


Fig. 3.

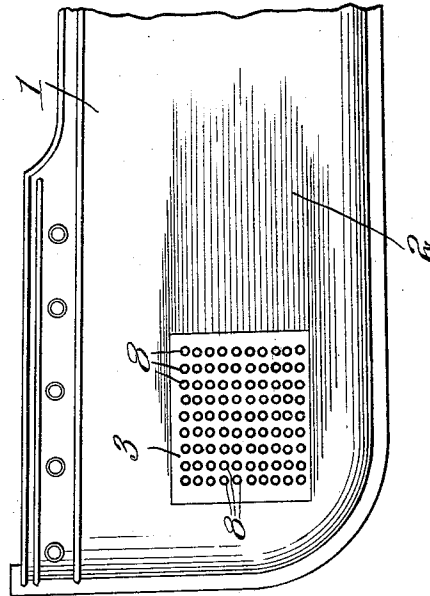


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 4.

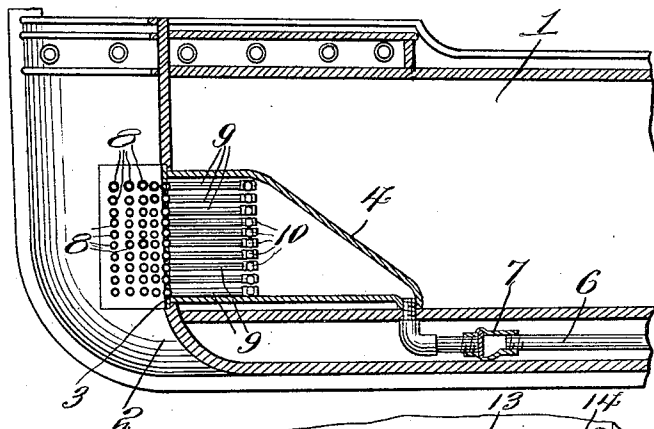


Fig. 5.

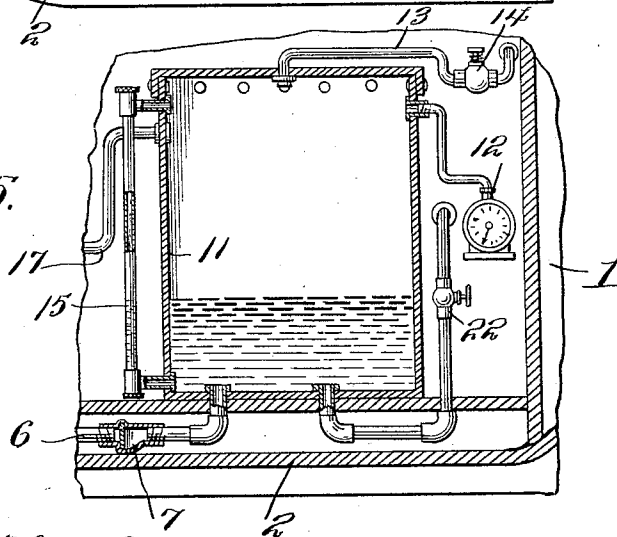
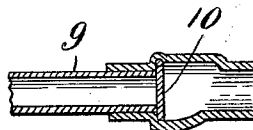


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHRISTIAN OLIVER AND OLAF G. JACOBSON, OF BALTIMORE, MARYLAND.

PROPELLING MECHANISM.

1,061,110.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed April 13, 1912. Serial No. 690,612.

To all whom it may concern:

Be it known that we, CHRISTIAN OLIVER, a subject of the King of Norway, and OLAF G. JACOBSON, a citizen of the United States, residing at Baltimore city, State of Maryland, have invented new and useful Improvements in Propelling Mechanisms, of which the following is a specification.

This invention relates to propelling mechanism for vessels.

The principal object of the invention is to provide simple and efficient means whereby after the vessel has received its initial start by any suitable type of engine, the force of water impinging against the bow may be utilized to produce power whereby the aforesaid engines may be driven independent of steam power.

Further objects of this invention will appear as the following specific description is read in connection with the accompanying drawing, which forms a part of this application, and in which:—

Figure 1 is a longitudinal section through the vessel showing the improved guiding mechanism arranged therein. Fig. 2 is a detail side elevation. Fig. 3 is a detail horizontal section. Fig. 4 is a vertical section on the line 4—4 of Fig. 3. Fig. 5 is a detail sectional view showing the compressed air tank and its associated parts. Fig. 6 is a detail vertical sectional view showing the valves of the separate tubes.

Referring more particularly to the drawings, 1 represents the hull of the vessel which is provided upon opposite sides of its bottom 2 with perforated plates 3, each of which are connected to suitable casings 4 extending inwardly from the sides of the hull and having their rear ends tapered horizontally and downwardly to connections with suitable conduction pipes 5 and 6, both of which are provided with check valves 7 therein. Communicating with each aperture 8 in the plates 3 are pipes 9 having flap valves 10 arranged in their length and operating, as shown, to prevent exit of air or water when once let into the casings 4. The pipes 7 extend rearwardly, preferably between the keel and the floor and are connected at their rear ends to a pressure tank 11. This pressure tank is provided with a pressure gage 12 and a pipe 13 which leads to a safety valve 14. A suitable gage glass 15 is connected to the tank at the upper and

lower portions thereof and extends the full length of said tank, as shown.

Mounted in the hull adjacent the pressure tank is a turbine or other engine 16 connected to the valve pipe 17 and having a driving shaft 18 which is provided with a gear 19 to mesh with the gears 20 on the propeller shafts 21, one only of which is shown herein.

In the operation of the device, the tank is preferably empty or it may have a quantity of compressed air therein sufficient to start the boat without the operation of the engine by steam. Under ordinary circumstances, the engine will be started by steam and the boat given its initial movement. This causes water and air to be forced through the tubes 9 at the bow of the vessel and as this water passes back through the check valves and into the compression tank, the air rises in the tank and is compressed by the rising water so that it may be utilized to drive the engine independent of its source of steam supply.

If it is found necessary, the engine 16 may be in form of an ordinary compressed air engine and an auxiliary engine may be supplied to start the vessel, which engine may either be an ordinary steam engine or any other type suitable for the purpose.

The device, of course will operate with more efficiency in a sea way because as the bow of the vessel rises and falls, the tubes 9 will receive air on the rise of the bow which will be compressed as the bow is submerged. Thus more air and less water is taken into the tank and there is, therefore, less water to be discharged through the sea cock 22.

After the vessel has been initially started and has attained a requisite speed and the proper amount of air has been compressed in the storage tank, this air is utilized to drive the vessel and as long as the vessel proceeds under this power the same action of continuously compressing air will take place. When the tank becomes full of water it is, of course, necessary to remove the same and start the vessel again by the use of the engine driven by steam, and when this has been done the steam is cut off and the compressed air from the tank is used in its place.

What is claimed is:—

1. In a device of the class described, a hull, a casing mounted in the hull, valved

tubes leading into the casing and exposed through the hull, an air tank connected to the casing; and a propelling engine connected to the receiving tank and adapted to be operated by the compressed air therefrom.

2. In a device of the class described, a hull, casing mounted in the hull, valved tubes projecting into the casing and exposed through the hull, an air tank, a valved tube connecting the casing to the receiving tank, a water outlet for the tank, a steam engine mounted in the hull and adapted to be oper-

ated by the compressed air from the tank, a valve connection between the receiving tank and the engine, and a propelling shaft operated by the engine.

In testimony whereof we affix our signatures in presence of two witnesses.

CHRISTIAN OLIVER.
OLAF G. JACOBSON.

Witnesses:

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