No. 849,006.

PATENTED APR. 2, 1907.

H. MIKOREY.

PROPELLING AND FLOATING DEVICE FOR BOATS AND THE LIKE.

APPLICATION FILED DEC. 7, 1905.

Fig. 1

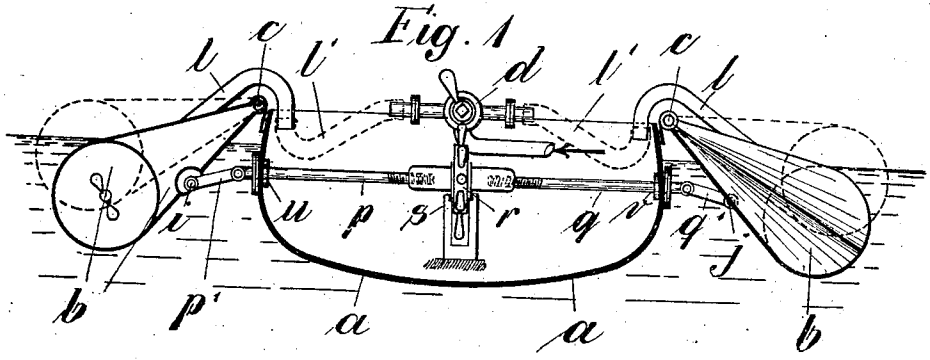
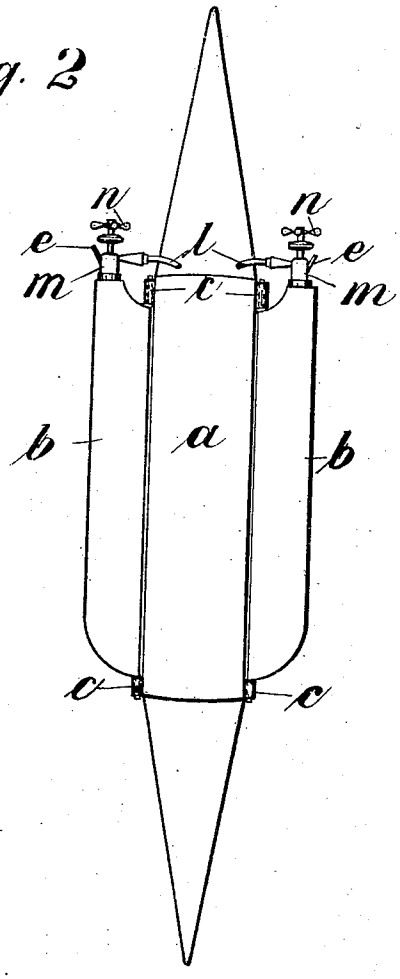


Fig. 2



Witnesses:

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HANS MIKOREY, OF SCHÖNEBERG, GERMANY.

PROPELLING AND FLOATING DEVICE FOR BOATS AND THE LIKE.

No. 849,006. Specification of Letters Patent. Patented April 2, 1907.

Application filed December 7, 1905. Serial No. 290,695.

To all whom it may concern:

Be it known that I, HANS MIKOREY, engineer, of Schöneberg, Germany, have invented certain new and useful Improvements in Propelling and Floating Devices for Boats and the Like, of which the following is a specification.

This invention relates to a new propelling and floating device for boats and the like, which essentially consists of two floats—one at each side of the boat—which for the purpose of adjustment in their level relatively to the level of the water—*i. e.*, of their capability for different loads—are in pivotal connection with the sides of the boat and provided each with a propelling-motor.

The essential feature of the invention consists of the peculiar sectioned shape of the floats, the latter being formed of sides diverging from the pivotal connection of said floats and said sides mounted below to a cylindrical body and leading in the front in a cutter-like shape in order to obviate the necessity of changing the floats for various water displacements.

By the greater or lesser immersion of the floats according to their being adjusted in their level the water-displaced area is determined—*i. e.*, the boat can be made capable of being loaded heavier or lighter. Besides, the single driving of the propeller at the rear end of each float is effected in a novel manner by a motor, electromotor, or preferably a steam-turbine being directly combined therewith, while only the generator or electric source, respectively, has to be placed in the boat itself, so that the real hold of the latter is very large. By means of a three-way cock or other equivalent device—in case of an electromotor an electric switch—the propulsion may be effected either by both motors or for steering purposes by one of them only.

The accompanying drawings show, by way of example, a boat on which the new propelling and floating device is mounted.

Figure 1 is a front view, partly in section, of the ensemble, while Fig. 2 is a plan view of the ensemble on a reduced scale.

At each end of the boat *a* one float *b* is fixed movably to the rim of the boat *a* by means of a pivotal connection *c*.

The shape of the floats, which are either entirely hollow or filled with cork or the like, is clearly shown on Fig. 1 by the cross-section of the left-hand float and in Fig. 2 by the plan of the floats. To the cylindrical main body the upper and lower flat sides, which project divergently from their pivotal connection *c*, are joined, while joining each other at the bow of the boat in cutter-like fashion, this latter construction being clearly shown in Fig. 1 by the view of the right-hand float.

In order to hold the floats in their position relatively to the body of the boat and also to allow of their being adjusted in their inclined position—*i. e.*, in their level—the following construction may be adopted: Through stuffing-boxes *u v*, Fig. 1, in the walls of the boat horizontal rods *p q* are led from the interior to the outside of the boat and pivotally connected with their outer ends to connecting-links *p' q'*, which are in turn pivotally connected to the lower flat sides of the float *b* and at their inner ends provided one with left-hand screw-threads and the other with right-hand screw-threads, with which ends they screw in a correspondingly-screw-threaded socket *r*, so as to form a kind of strut, the socket being provided with a hand-wheel for turning the same. The socket *r* is revolubly mounted in a bracket *s*, which is rigidly mounted on the bottom of the boat. By turning the socket *r* in one or the other direction the floats *b* can be either lifted or lowered, respectively, at the same time.

At the rear end of each float *b* the propelling-motor *m* and the propeller *n* is disposed. The motor is preferably a steam-turbine, as exemplified on the drawings. The steam is led to the motor by steam-pipe *l'*, which is connected to the latter by a flexible tube *l* in order to allow of the floats being adjusted from the generator placed in the boat itself, while in the connection between both steam-pipes *l'* a three-way cock *d* is inserted, which allows of the steam being either shut off entirely or led to both motors, or for steering purposes to any one of them only, or, as is very often desirable in the latter case, being throttled, so as to be supplied to a greater extent to one and to a smaller extent to the other of the two motors.

The three-way cock may be replaced by any other suitable device—such as, for instance, by a valve or slide—while in cases where electromotors are employed a switch is used instead. By these means a perfect steering is obtained directly by the propel-

ling-motors themselves, whereby the boat can be quickly and securely turned on account of the respective steering-points lying far distant from each other.

From the steam-turbines *m* the exhaust-pipes *e* are led below the water-level in the rearward direction of the boat, so that the exhaust is adapted to produce the effect of a reaction propeller. Besides, the efficiency of the motors is increased by condensation of the steam.

A non-return valve may be provided at the orifice of each steam-exhaust pipe, so as to prevent water from entering the latter when the motor is not in operation.

The construction of the new propelling and floating device, though being particularly destined for obtaining high speed with suitable capability for different loads of the boat, may be also adopted in connection with tow-boats, on the consideration that the waves produced by the lateral propellers are diverted to both sides of the tow, whereas the streaming produced by one propeller placed axially in the middle of the common tow-boats is directly led onto the bow of the next following towed boat, which has therefore to overcome a considerably greater resistance as when towed by a tow-boat provided with the new propelling and floating device.

With the very high rotary speed—which, for instance, is imparted to the propeller by the steam-turbine motor—the diameter of the propelling-screw need not be very large, so that even with the float being raised to a very high extent the propeller will always work perfectly submerged below the water-level.

The new propelling and floating device can be easily and quickly applied to already-existing boats without any particular alterations of the latter, while the construction of the device, besides being very effective, is very simple and inexpensive.

What I claim as my invention, and desire to secure by Letters Patent, is—

A propelling and floating device for boats and the like, comprising, in combination, two floats *b* attached each to one side of the boat by means of a pivotal connection *c* and shaped each in such a manner that its upper and lower sides while diverging from their pivotal connection *c* are joined to a cylindrical body and join each other at the bow of the boat in cutter-like fashion, horizontal rods *p*, *q* led through stuffing-boxes *u*, *v* in the boat from the interior to the outside of the boat and pivotally connected with their outer ends to the lower flat sides of said floats *b* and provided at their inner ends, one with left-hand screw-threads and the other with right-hand screw-threads, a bracket *s* fixed to the bottom of the boat, a socket *r* revolubly mounted in said bracket *s* and provided at its outside with a hand-wheel and at its inside with right and left hand screw-threads adapted to receive the correspondingly-screw-threaded ends of said rods *p*, *q* and, when being turned to raise or lower said floats *b*, propellers *n* and propelling-motors *m* one placed at the rear end of each float *b*, a generator or equivalent power source placed in the boat itself, steam-pipes *l'*, *l* between said propelling-motor and said generator, a three-way cock or equivalent device inserted in the connection between the steam-pipes for each motor and adapted to effect the propulsion either by both motors or for steering purposes by any one of them only, substantially as described and shown and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HANS MIKOREY.

Witnesses:
HENRY HASPER,
WOLDEMAR HAUPT.