

No. 616,410.

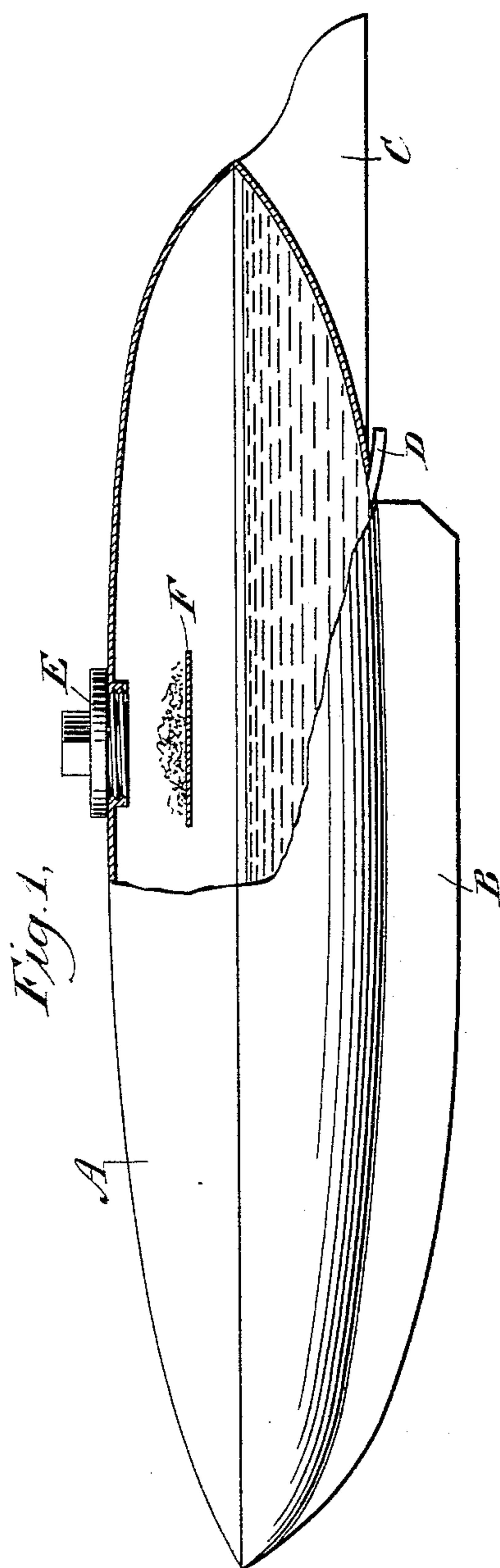
Patented Dec. 20, 1898.

J. T. CRAWLEY.

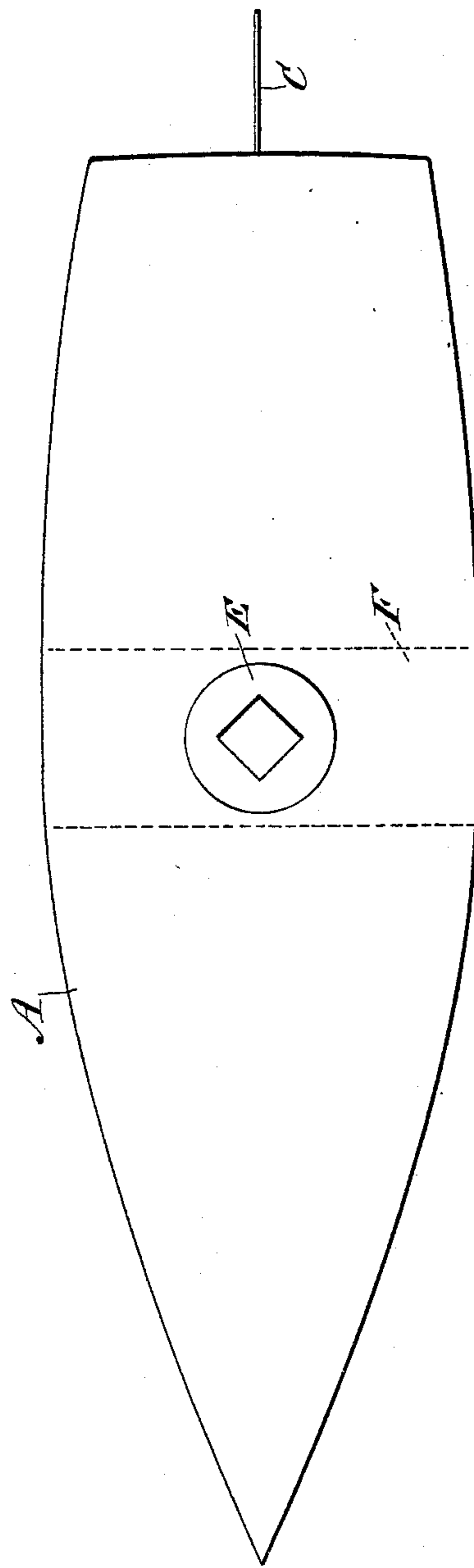
TOY BOAT.

(Application filed Aug. 4, 1898.)

(No Model.)



*Fig. 2.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSIAH THOMAS CRAWLEY, OF HONOLULU, HAWAII.

## TOY BOAT.

SPECIFICATION forming part of Letters Patent No. 616,410, dated December 20, 1898.

Application filed August 4, 1898. Serial No. 687,707. (No model.)

*To all whom it may concern:*

Be it known that I, JOSIAH THOMAS CRAWLEY, of Honolulu, Hawaii, have invented a new and Improved Toy Boat, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved toy boat which is simple and durable in construction and designed to be propelled in a very simple manner without the use of special machinery.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

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 both the figures.

Figure 1 is a side elevation of the improvement with parts in section, and Fig. 2 is a plan view of the same.

The improved toy boat is provided with a completely-closed hull A, a keel B, and a rudder C of any approved construction, and from the hull A leads a small pipe D in a rearward direction in alinement with the keel B, the pipe being preferably located between the end of the keel and the gearing for the rudder, as is plainly indicated in the drawings. The top of the hull A is provided with a filling-opening normally closed by a plug E, and directly below the said filling-opening is arranged a transverse shelf F, adapted to sustain substances for generating gas in the hull of the boat.

The device is used as follows: The plug E of the filling-opening is removed, and then the interior of the hull is partly filled with air or other suitable fluid, as indicated in Fig. 1, and a gas-generating substance is placed on the shelf F and the plug E is screwed into the filling-opening to close the hull. The gas generated from the substance on the shelf F now presses upon the liquid contained in the hull, so that this liquid is forced out in a very fine stream and in a rearward direction into the water in which the boat is to be propelled, and as the stream leaving the pipe D strikes the water it propels the boat forward in a di-

rection in accordance with the position of the 50 rudder C.

From the foregoing it will be seen that the boat is propelled without any special machinery and in a very simple manner, it being understood that the boat may be run for quite 55 a long time, according to the amount of gas generated in the hull and the size of the minute outlet-pipe D, through which passes the liquid forced out of the hull by the pressure of the gas. 60

I do not limit myself to any special substance used for generating the gas; but it is evident that sodium carbonate or bisulfate of soda or similar substance may be employed and placed on the shelf F, and then an acid or 65 an acid salt is added to the substance to generate gas in the hull, for the purpose above mentioned.

Having thus fully described my invention, I claim as new and desire to secure by Letters 70 Patent—

1. As a new article of manufacture, a toy boat having a hull adapted to be partly filled with a liquid, a minute discharge-pipe leading from the bottom of the hull and a sup- 75 port arranged within the hull above the surface of the liquid and adapted to sustain gas-generating chemicals, whereby the gas generated within the hull will press upon the surface of the liquid and force the same out 80 of the discharge-pipe to propel the boat, substantially as described.

2. As a new article of manufacture, a toy boat consisting of a closed hull adapted to be partly filled with water, a minute discharge- 85 pipe leading from the bottom of the hull in a rearward direction in alinement with the keel of the boat, a transverse shelf located within the hull above the surface of the liquid and adapted to sustain chemicals for generating 90 gas, and a filling-opening in the top of the hull directly above the said shelf and normally closed by a screw-plug, substantially as shown and described.

JOSIAH THOMAS CRAWLEY.

Witnesses:

A. H. MOSSMAN,

A. G. M. ROBERTSON.