

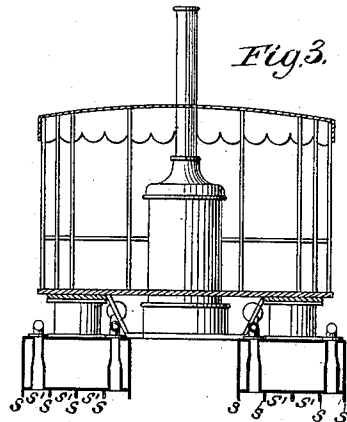
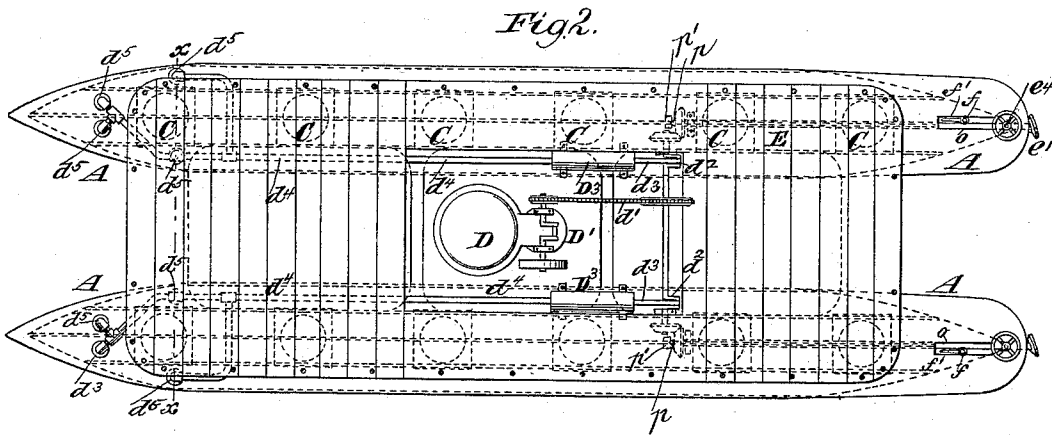
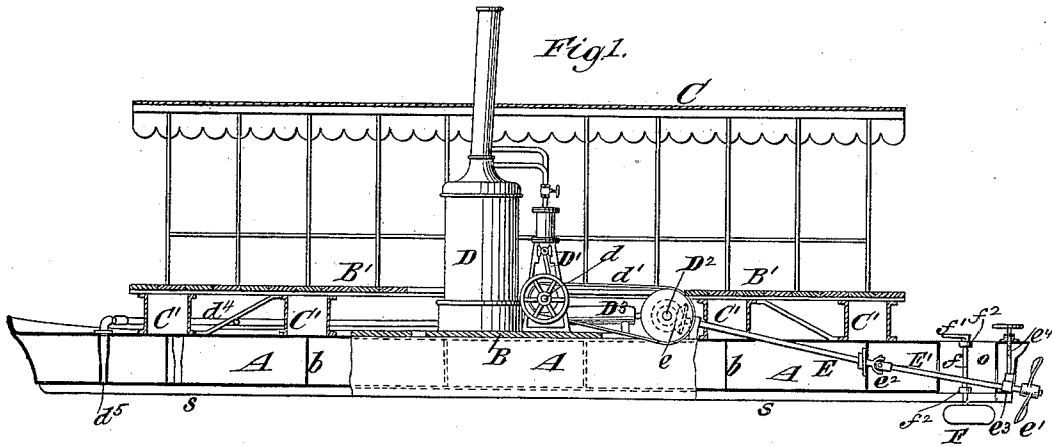
(No Model.)

A. OLSEN.

CONSTRUCTION OF BOATS.

No. 378,613.

Patented Feb. 28, 1888.



Witnesses:

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UNITED STATES PATENT OFFICE.

ANDREAS OLSEN, OF EPHRAIM, UTAH TERRITORY.

CONSTRUCTION OF BOATS.

SPECIFICATION forming part of Letters Patent No. 378,613, dated February 28, 1888.

Application filed May 19, 1887. Serial No. 238,716. (No model.)

To all whom it may concern:

Be it known that I, ANDREAS OLSEN, of Ephraim, in the county of San Pete and Territory of Utah, have invented a new and useful Improvement in Boats, of which the following is a specification.

My invention relates more particularly to boats of the catamaran type, which comprise two hulls; and the object of my invention is to provide a stable and comparatively fast boat for sporting or hunting purposes which will draw but little water, and in which the propelling-power is applied in the most effective manner.

In my improved boat I employ two flat-bottomed hulls and a deck extending between them. The deck usually comprises a lower portion or deck, on which is placed the machinery for driving the boat—as, for example, the boiler and steam-engine—and an upper deck extending fore and aft of the machinery-deck. The upper deck I support on tubular supports, which are erected on the hulls, and which form air-tight compartments, and the hulls themselves are also preferably constructed to form air-tight compartments. Upon the machinery-deck is a driving-shaft extending transversely of the length of the boat, and two inclined propeller-shafts—one for each hull—are geared with this driving-shaft and extend downward and rearward to the ends of the hulls, where they are provided with jointed sections, each of which carries a propeller. By means of a screw for each propeller-shaft the stern-bearing, in which the jointed shaft-section is journaled, can be raised to lift the propeller when the boat runs into shoal water. I also provide in the stern portion of each hull a rudder well or compartment open at the bottom, and in suitable bearings in this well or compartment is mounted a rudder shaft or post, which may be turned to change the direction of the rudder for steering the boat, and which may be raised, when desired, to sheath the rudder in the well or compartment and above the bottom of the hull.

The invention consists in novel combinations of parts, hereinabove referred to and hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal section of a boat embodying my

invention, the plane of section being principally through one of the hulls, but a portion of the hulls being shown in elevation. Fig. 2 is a plan of the boat; and Fig. 3 is a transverse section on about the plane of the dotted line *x x*, Fig. 2.

Similar letters of reference designate corresponding parts in the several figures.

A A designate two long and comparatively narrow flat-bottomed hulls, which are constructed with partitions *b*, dividing them into air-tight compartments. Directly upon these two hulls, and about midway of the length of the boat, is a lower machinery-deck, B, and extending fore and aft of the machinery-deck are upper decks, B', which may be covered by an awning, C, and which are represented as mounted upon suitable supports, C', on the hulls. These said supports preferably are tubular and form air-tight compartments, additional to those in the hulls A, rendering it almost impossible to submerge the boat. As here represented, the machinery for driving the boat consists of a boiler, D, and an engine, D', the crank-shaft *d* of which is connected by chains or other gearing, *d'*, with the driving-shaft D², mounted in suitable bearings upon the machinery-deck B. By means of eccentrics or cranks *d²* on the driving-shaft, and through connecting-rods *d³*, the pistons or air-compressing pumps D³ are operated, and by suitable pipes, *d⁴*, leading from these pumps the compressed air is conducted to the forward portions of the hulls A. The flat bottoms of the hulls A are provided with longitudinal ribs or false keels *s*, which form between them air-channels *s'*, and the air-supply pipes *d⁴* terminate in downwardly-extending branches, which lead to the air-channels *s'*, as shown in Fig. 3, and which supply compressed air to the channels *s'*. As the boat advances this compressed air serves as a medium interposed between the water and the bottom of the hull to greatly reduce the frictional resistance which is opposed by the water to the advance of the boat.

E designates propeller-shafts, which are inclined downwardly and rearwardly from the driving-shaft D²; and are connected therewith by bevel-gears *e* or other suitable driving-gearing. The sections of these shafts E', which are at the rear ends of the boat, and on which

are mounted the propellers e' , are connected with the main portions of the shafts E by universal joints e^2 , thereby providing for raising or lowering the stern-sections E' of the shafts, 5 and the thrust-bearing e^3 , wherein the stern-sections are journaled, may be raised and lowered by screws e^4 , thereby providing for lifting the propellers out of the reach of obstruction when the boat moves in shallow water.

10 In the stern portion of each hull A is constructed a rudder well or compartment, o , which is open at the bottom, and the rudder F for each hull is mounted upon a rudder post or shaft, f , which has at the top a handle, f' , 15 whereby it may be turned, and which is mounted in bearings f^2 , wherein the shaft or post may be turned to shift the rudder for changing the direction of the boat, and raised for lifting the rudder into the well or compartment o and 20 out of the way of obstruction in case the boat be moving in shallow water.

It will be seen that my improved boat is particularly adapted for sporting or hunting purposes, inasmuch as it draws but very little water, is very stable, and is so constructed as to 25 render it almost impossible to sink it.

One advantage of arranging the rudders F within the wells o slightly forward of the stern is that they do not in any way interfere with 30 the propellers, and comparatively large propeller-wheels may be used. In order to prevent longitudinal thrust upon the stern-bear-

ings of the propeller-shafts E , each of these shafts at its inner end may be formed with a pivot-journal, p , bearing against a thrust- 35 block, p' .

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

1. The combination, with two hulls constructed to form air-tight compartments, and 40 a lower deck for machinery extending between the hulls, of an upper deck and tubular supports therefor erected on the hulls, and also forming air-tight compartments, substantially as herein described. 45

2. The combination, with two hulls and a lower deck for machinery, connecting the hulls about midway of their length, of an upper deck extending between and supported by the hulls in front of and behind the machinery-deck, 50 substantially as herein described.

3. The combination, with two hulls, each having at the stern a rudder well or compartment open at the bottom, of a deck extending between the hulls, rudder shafts or posts, one in 55 each well or compartment and each provided with a rudder, and bearings wherein said shafts or posts may be turned and raised vertically, substantially as herein described.

ANDREAS OLSEN.

Witnesses:

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