May 29, 1934. T. OUELLETT 1,960,826

BOAT

Filed March 31, 1933

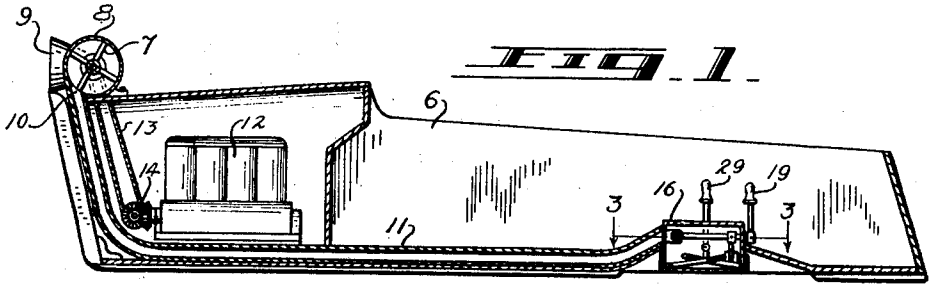


Fig. 1.

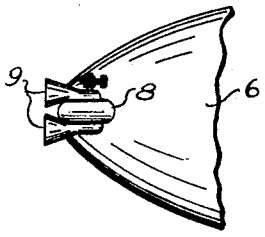


Fig. 2.

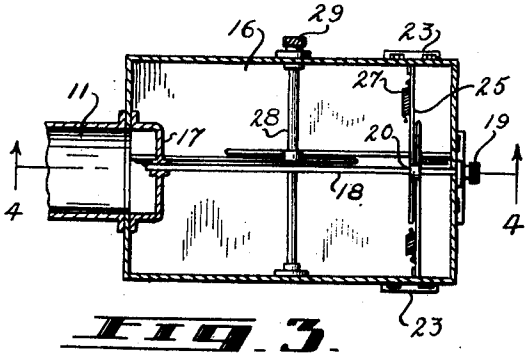


Fig. 3.

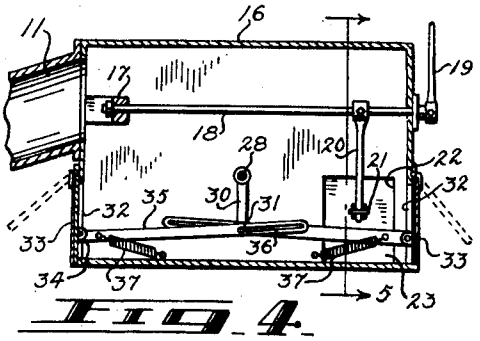


Fig. 4.

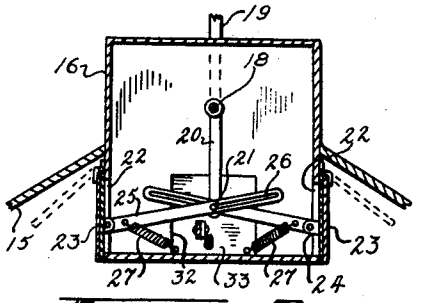


Fig. 5.

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BOAT

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4 Claims. (Cl. 115—15)

This present invention relates to certain new and useful improvements in boats and appertains particularly to the propelling means therefor.

An object of the invention is to provide for the propulsion of a vessel or the like by a pneumatic jet.

A further object of the invention is to provide a jet propelled boat or the like with a reservoir having a plurality of gates opening selectively directly into the water or other enveloping body.

A further object of the invention is to provide a jet propelled boat or the like with selectively controlled outlets for producing forward and reverse propulsion and for turning to either side.

A further object of the invention is to provide a jet propelled boat or the like operated by a flow of air from a blast fan actuated by any suitable source and providing a smooth powerful driving medium.

A still further object of the invention is to provide a jet propelling means for a boat or the like that is characterized by structural simplicity, durability, driving flexibility and low cost of production and maintenance whereby the same is rendered commercially desirable and that is especially adaptable to a variety of uses where quietness, smooth running, speed or power are needed or where shallow water or weeds make it preferred above the conventional mechanical propeller drive.

To the accomplishment of these and related objects as shall become apparent as the description proceeds, my invention resides in the construction, combination and arrangement of parts as shall be hereinafter more fully described, illustrated in the accompanying drawing and pointed out in the claims hereunto appended.

The invention will be best understood and can be more clearly described when reference is had to the drawing forming a part of this disclosure wherein like characters indicate like parts throughout the several views.

In the drawing:—

Figure 1 is a vertical longitudinal section of a boat in which this invention has been installed;

Figure 2 is a plan of the bow of the boat, showing the intake;

Figure 3 is a horizontal section of the reservoir chamber as taken on the line 3—3 of Figure 1, looking in the direction indicated by the arrows;

Figure 4 is a vertical section thereof as taken on the line 4—4 of Figure 3, looking in the direction indicated by the arrows; and

Figure 5 is a vertical section thereof as taken on the line 5—5 of Figure 4, looking in the direction indicated by the arrows.

On the bow of the boat 6 a blast fan 7 is mounted in a housing 8 having a pair of funnel-shapel inlets 9, one on each side of the said fan 7, and a central outlet 10 communicating with a pipe or passage way 11. A gas engine or other power plant 12 drives the fan 7 connecting therewith by an endless chain 13 and suitable gearing 14.

Near the stern of the boat 6 the bottom of the hull is cut in at its centre, sloping upwards from front and back and in from both sides to provide an inverted bowl-like cavity 15. A chamber or reservoir 16, into the top of the forward end of which the air pipe or passage way 11 delivers, is dropped into this cavity 15 its bottom descending to a level with boats keel though its top extends up through this indented portion of the hull into the body of the boat.

A bracket 17, with offset ends that fasten to the forward wall of the reservoir 16, straddles the inlet or delivery end of the pipe 11 and cooperates with the rear wall of the reservoir in supporting a longitudinal horizontal shaft 18 that projects through the said rear wall and exteriorly thereof carries a vertical lever 19. On the rear of the shaft 18, though within the reservoir 16, an arm 20 is keyed rigidly and hangs down perpendicularly. A pin 21 extends through its lower end parallel with the shaft 18 and projecting out on both sides. A port or outlet 22 occurs in each side wall of the reservoir 16 near the back bottom corner and a gate 23 hinged along its top is provided for each as a closure. A bracket 24 on the inside of each gate 23 carries a hinge arm 25 with an eye as an elongated horizontal slot 26 near its inner free end adapted to receive and ride on one end of the pin 21 in the lower end of the arm 20. As each of the opposite gates 23 have a slotted hinge arm 25, they will preferably engage the pin 21, one on each side of the arm 20 for convenience and compact arrangement. A coil spring 27 is stretched between each hinged arm 25 and the bottom of the reservoir 16 pulling inwards to keep the gates 23 normally closed. When in a position of rest, the arms 25 are so slotted that they rest on the pin 21 occupying a position at the end of the slots 26 furthest in from the free end of the arm 25 so that as the lever 19 is swung from side to side rocking the shaft 18 the arm 20 swings to one side or the other, its pin 21 pushing against the inner end of one slot 26 and riding freely and inoperatively in the other slot to open the gate carrying the

arm of the first slot without affecting the opposite gate so that either gate may be selectively opened as desired by swinging the lever 19 to the opposite side.

There is a second shaft 29 in the reservoir 16, this time extending transversely and journalled in the sides of the reservoir and extending therethrough at the right side to carry an upstanding lever 29. A rigid arm 30 depends from this shaft 29 centrally of the sides of the reservoir with a pin 31 through its lower end and projecting out on both sides, said pin lying parallel with the shaft 28. Large ports or outlet openings 32 occur in both the front and rear walls of the reservoir, at the bottom, provided with suitable closure gates 33 hinged along their top edges. Hinge brackets 34 on the inside of these gates 33 each carry a horizontal arm 35 extending inwardly and slotted at its free end as at 36 to receive one end of the pin 31 on the lower end of the arm 30 which normally rests in the end of the slot remote from the free end of the arm 35. One of the slotted arms rides on each side of the arm 30 engaging opposite ends of the pin 31. Coil springs 37 are stretched between the arms 35 and the bottom of the reservoir, pulling inwards to hold the gates normally closed against whose action either gate is individually opened by swinging the lever 29 in the opposite direction.

As the detailed structure of one possible form of the invention has been thus set forth, it should suffice in conclusion to make but brief reference to its use and modus operandi: The fan 7 is set in motion actuated from the desired source forcing a draft or stream of air down through the passage way 11 into the reservoir 16. The operator at the controls, using the levers 19 and 29 drives and directs the craft at his will; to advance, he shoves the lever 29 forwards, opening the gate 33 in the rear wall of the reservoir so that the jet or flow of air rushes out the rear port propelling the craft forwards. To reverse, this same lever 29 is pulled backwards closing the rear port gate and opening the front gate so that the reservoir discharges forwardly thereby driving the craft backwards. To turn to port, the lever 19 is swung to the starboard, opening the port gate 23; to turn the other way the lever is moved in the reverse direction. To ride at rest the levers 19 and 29 stand vertically with all four gates closed.

From the foregoing description taken in connection with the accompanying drawing, it will be manifest that a boat is provided that will fulfill all the necessary requirements of such a device but as many changes could be made in the above description and many apparently widely different embodiments of my invention may be constructed within the scope of the appended claims without departing from the spirit or scope thereof, it is intended that all matters contained in the said accompanying specification and drawing shall be interpreted as illustrative and not in a limitative or restrictive sense.

Having thus described the invention, what is claimed is:—

1. A propelling means for a vessel comprising in combination with a hull having an inverted bowl-like cavity in its bottom at the rear thereof, a reservoir set in said cavity and hanging as low as the vessel's keel, an inlet, pressure supplying means therefor, ports in the ends and sides of said reservoir and gates normally closing said ports and operable in pairs so that one of either or both of said pairs of gates can be operated simultaneously.

2. A propelling means for a vessel comprising a reservoir extending down through the bottom of the boat, means for supplying pressure to said reservoir, ports in the ends and sides of said reservoir discharging directly into the water, gates for the ports in the front and back of said reservoir and a lever control therefor, gates for the ports in the sides of said reservoir and a second lever for operating the gates for the ports in the sides of said reservoir.

3. A fluid jet propelling means for a vessel comprising in combination with a boat, a concave indentation in the bottom of the hull thereof near the stern, a reservoir sunk therein and extending down to a level with the keel and projecting up through the bottom into the body of the boat, means for supplying pressure to said reservoir and ports in said reservoir discharging directly into the water in said concave indentation in the bottom of said boat's hull.

4. A fluid jet propelling means for a vessel comprising in combination with a boat, a concave indentation in the bottom of the hull thereof near the stern, a reservoir sunk therein, a port in each end of said reservoir, gates normally closing said ports and a lever for selectively controlling said gates, a port in each side of said reservoir, a closure gate for said side ports and a second lever for selectively controlling the closure gates for said side ports.

THOMAS OUELLETT.