Dec. 1, 1942. O. C. EAST 2,303,729

BOAT PROPELLING MEANS

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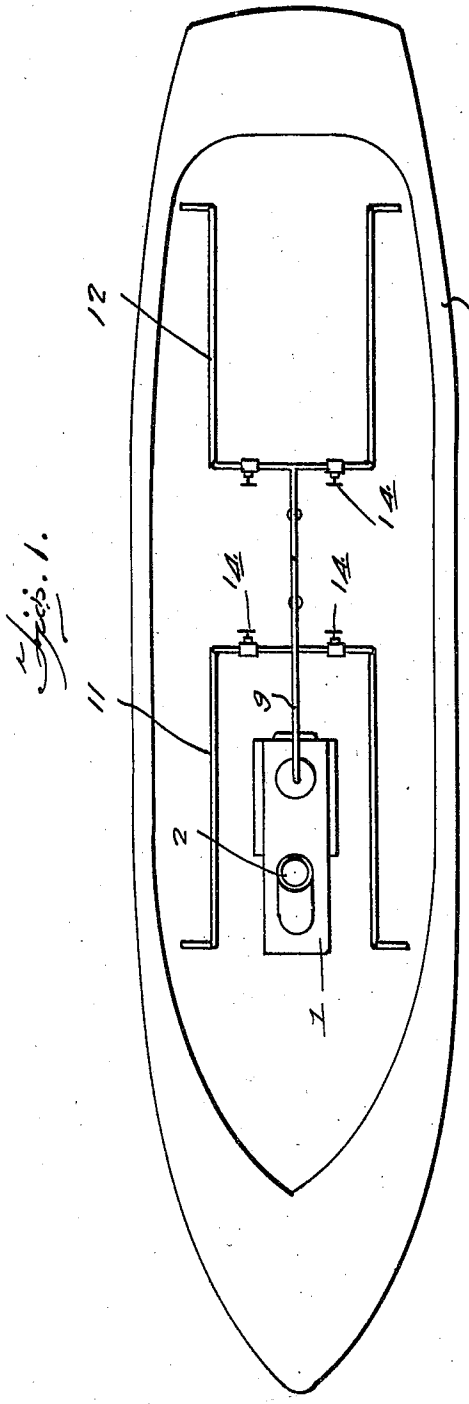


Fig. 1.

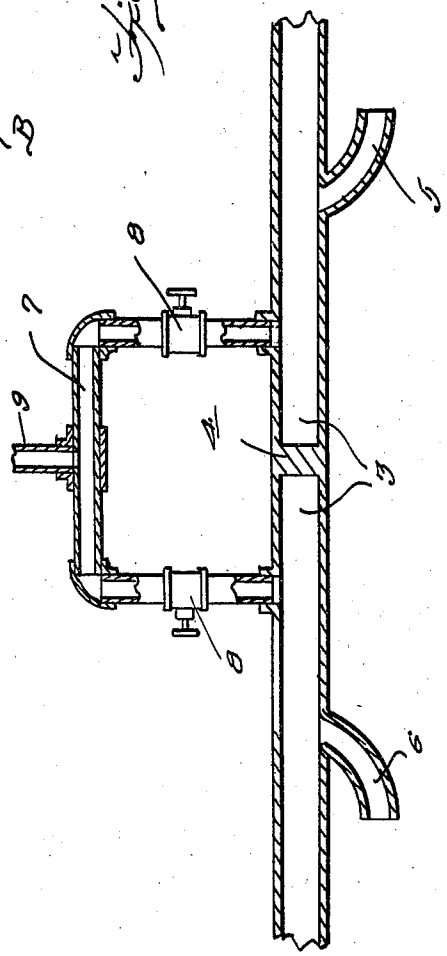


Fig. 3.

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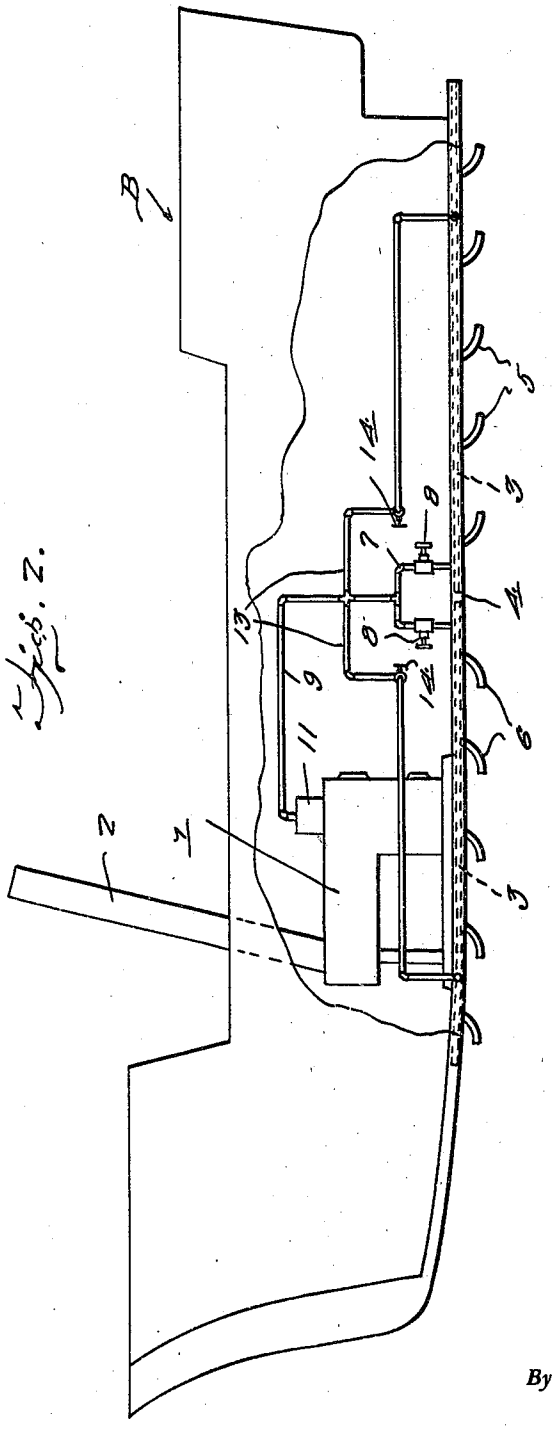


Fig. 2.

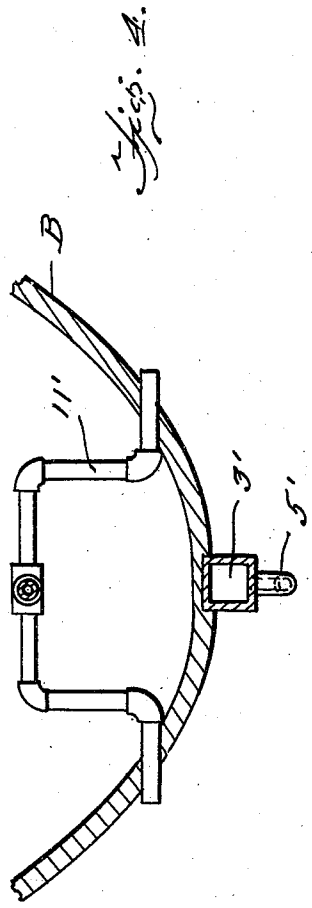


Fig. 4.

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BOAT PROPELLING MEANS

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Application August 23, 1941, Serial No. 408,097

2 Claims. (Cl. 115—11)

This invention relates to means for propelling boats, the general object of the invention being to provide means whereby jets of steam are used for propelling the boat by the steam acting upon the water to propel the boat forwardly, rearwardly or to turn the boat.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a top plan view of a boat provided with the improved propelling means.

Figure 2 is an elevational view of the boat with parts broken away to show the interior means.

Figure 3 is a fragmentary longitudinal sectional view showing the means for introducing steam into conduits in the bottom of the boat with some of the nozzles in communication with the conduits for moving the boat either rearwardly or forwardly.

Figure 4 is a fragmentary transverse sectional view showing the means for turning the boat and also a modified form of conduit.

In these views the boat is shown at B and a steam boiler 1 is located in a part of the boat, the stack being shown at 2. Conduits 3 are formed in the central portion of the bottom of the boat and these conduits are separated at the center of the boat by a partition 4. The conduits extend forwardly and rearwardly as shown and downwardly and rearwardly curving nozzles 5 are connected with the rear conduit while downwardly and forwardly curving nozzles 6 are connected with the forward conduit. An inverted U-shaped pipe line 7 is located in the boat with one limb in communication with the rearwardly extending conduit and the other with the forwardly extending conduit, as shown in Figure 3. A valve 8 is located in each limb to control the flow of steam therefrom and a pipe line 9 connects the bight of the line with the steam dome 1' of the boiler.

Thus by opening one valve 8 and closing the other valve steam will flow from the boiler into one of the conduits and by reversing the valves the steam will flow into the other conduit. Of course, when the steam is flowing into the rearmost conduit it will escape through the nozzles 5 and the escape of this steam into the water will act to propel the boat forwardly. When steam is introduced into the forward conduit and is escaping through the nozzles 6 the boat will be propelled rearwardly. A front yoke-shaped pipe line 11 has the forward ends of its limbs bent to pass through the sides of the boat below the water line and a rear yoke-shaped pipe line 12 has the rear ends of its limbs bent to pass through the sides of the boat below the water line and the bights of these lines are connected by the pipes 13 with the vertical part of the line 9 and a pair of valves 14 is arranged in each bight, one on each side of the connection of the bight with the line 13 and the other valve on the opposite side of said connection. Thus by closing one of the valves 14 and opening the other steam will pass through one limb of the yoke-shaped line 11 and pass into the water from a side portion of the boat so as to turn the boat and said turning movement can be facilitated by opening a valve 14 to permit the steam to pass through the opposite limb of the yoke-shaped line 12 to pass into the water at the rear part of the boat so that the boat is moved at its front end in one direction and at its lower end in an opposite direction.

In the modification shown in Figure 4, the conduit 3' is made in the form of a tubular member suitably connected with the central portion of the bottom of the boat with the nozzles 5' extending from this conduit, it being understood that two of these conduits are provided with the nozzles extending forwardly from one conduit and the nozzles extending rearwardly from the other conduit. This view also shows how the yoke-shaped members have their ends of angle shape in cross section as shown at 11' to pass through holes in the side portions of the boat to produce the turning action.

Thus it will be seen that the steam produced by the boiler is projected into the water from the nozzle to propel the boat either forwardly or rearwardly and by having the steam pass from the ends of the members 11 and 12 the steam will cause turning movement of the boat. Thus it will be seen that this invention eliminates the use of motors, bearings of all kinds and a propeller which requires a stuffing box and every pound of steam produced in the boiler is used to propel the boat and to turn the same.

As the steam condenses as soon as it leaves the nozzles or comes in contact with the water there is no back lash of water as in boats as now

constructed so that there is no danger of flooding wharves or small boats with this invention.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts provided that such changes fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. Propelling means for a boat comprising conduit means extending longitudinally of the boat, a partition intermediate the ends of the conduit, a steam-generating device in the boat, means for connecting said device with the conduit at points forwardly and rearwardly of the partition, valves in said connecting means for each end of the conduit, and means for leading the steam from the conduit into the water to propel the boat in opposite directions.

2. Propelling means for a boat comprising front and rear continuously formed conduits connected with the bottom of the boat and having their adjacent ends separated, forwardly and downwardly curved nozzles connected with the front conduit, rearwardly and downwardly curved nozzles connected with the rear conduit, a steam generator in the boat having a steam supply pipe leading therefrom, branch pipes connecting the supply pipe to each conduit, branch pipes having portions passing through the sides of the boat at the front and rear, said branch pipes being connected with the supply pipe, and valves in each branch pipe, all of said valves being positioned adjacent the junction of the branch pipes with the supply pipe for control from a single position in the boat.

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