

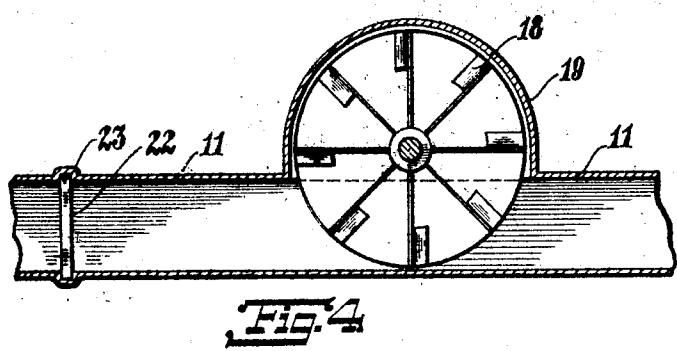
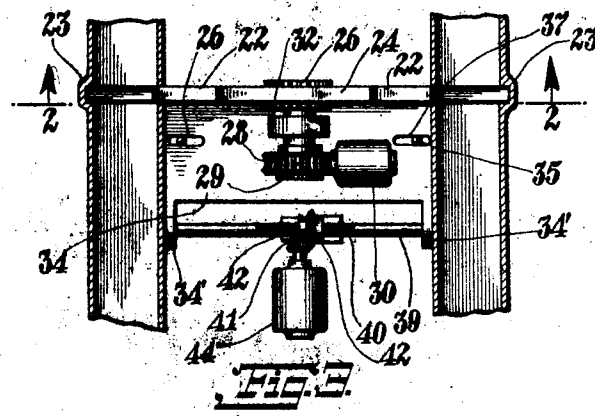
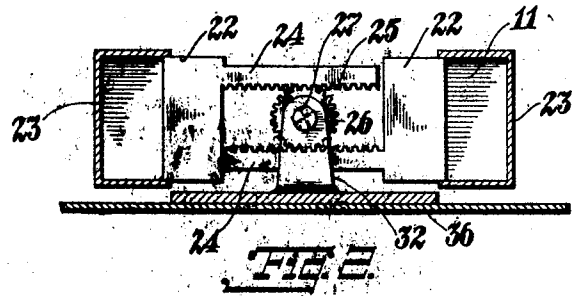
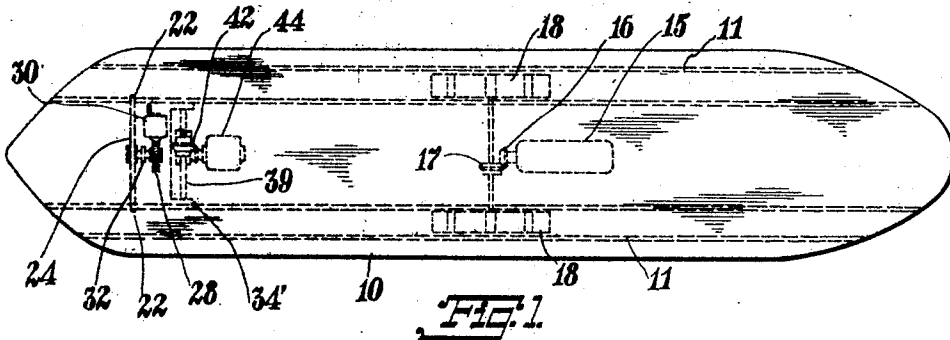
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L. ZSIKI

SHIP PROPULSION AND CONTROL MEANS

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UNITED STATES PATENT OFFICE.

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SHIP PROPULSION AND CONTROL MEANS.

Application filed January 2, 1925. Serial No. 32.

To all whom it may concern:

Be it known that I, LOUIS ZSIKI, citizen of Hungary, residing at Wharton, in the county of Morris and State of New Jersey, have invented certain new and useful Improvements in Ship Propulsion and Control Means, of which the following is a specification.

This invention relates to ship propulsion means in which suitably driven propellers have the water conducted thereupon through conduits arranged for control of the flow of water therethrough, the invention having for an object the provision of a novel ship propulsion means of this sort, a further specific object relating to the provision of valve means for controlling a pair of conduits.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawing is a plan view of a ship having the invention applied thereto.

Fig. 2 is a fragmentary transverse sectional view showing the means for controlling the water conduits, this view being taken on the line 2—2 of Fig. 3.

Fig. 3 is a plan view of the said means.

Fig. 4 is a fragmentary longitudinal section on the line 4—4 of Fig. 1.

In the drawing the reference numeral 10 indicates the hull of a ship. Extending longitudinally through this hull are a pair of tubes, forming water conduits, and which are located one on each side of the ship below the water line. In these tubes are placed propellers, which are driven from a motor or engine 15 through the medium of the bevel gear 16 on the engine shaft that engages with a bevel gear 17 on a transverse shaft 18 to the ends of which are fixed ordinary paddle wheels 18 enclosed in housings such as 19 and intersecting the conduits on their lower sides. The conduits 11 are adapted to be controlled by suitable valve means whereby the water may be directed as desired therethrough. Each conduit is controlled by a valve plate 22 slidable thereacross in suitable guide elements 23, each of these valve plates having a projecting stem 24, these stems overlapping one another and

being formed with rack teeth 25 on their adjacent faces that mesh with a spur gear 26 fixed on a stub shaft 27 on which is also a worm gear 28 engaged by a worm pinion 29 on the shaft of an electric motor 30. The shaft 27 is supported by a bearing element 32 on a base plate or member 34 that is adjustable transversely of the ship, the motor 30 being also mounted on this plate 34, so as to be adjustable therewith. This plate 34 may be guided by suitable means such as the pins 35 fixed to a flooring element 36 on which the plate rests and engaging in slots 37 in the plate. To adjust the plate 34 transversely of the ship, a shaft 39 is fixed at opposite ends to projections 34' from the plate 34 and is formed with screw threads 40 that are engaged by the threaded bore of a bevel gear 41 loose on the shaft, this gear being retained against movement transversely of the ship by means of the bearing elements 42 fixed on the floor 36. The gear 41 is engaged by a bevel pinion 43 on the shaft of a second electric motor 44, this motor being mounted on the flooring 36.

As will be apparent, by causing the motor 30 to operate, the flow of water through the conduits 11 may be increased or decreased in unison, or by causing the motor 44 to operate, the flow through one can be increased simultaneously with the decrease in the flow of water through the other. With this construction the device may be used in steering the boat, or turning it around in cramped space such as at a dock, while the conduit control means may be applied to other devices as may be desired.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent of the United States is as follows:

1. In a ship, a pair of water conduits extending longitudinally through the ship, propeller wheels in said conduits, and means for driving said propeller wheels, valves controlling the respective conduits, and means for adjusting said valves in unison either in a common direction or in opposite directions.

2. In a ship, a pair of water conduits extending longitudinally through the ship, propeller wheels in said conduits, means for driving said propeller wheels, a pair of slidable valve plates for controlling the flow of water through the said conduits, stems

on the said valve plates, said stems overlapping one another and being formed with rack teeth on adjacent faces, a gear meshing with said rack teeth, and means for

5 rotating said gear.
 3. In a ship, a pair of water conduits extending longitudinally through the ship, propeller wheels in said conduits, means for driving said propeller wheels, a pair of
 10 slidable valve plates for controlling the flow of water through the said conduits, stems on the said valve plates, said stems overlapping one another and being formed with rack teeth on adjacent faces, a gear meshing
 15 with said rack teeth, and means for rotating said gear, and means for shifting said gear, and with it the said valve plates, bodily in opposite directions.

4. In a ship, a pair of water conduits
 20 extending longitudinally through the ship, propeller wheels in said conduits, means for driving said propeller wheels, a pair of slidable valve plates for controlling the flow of water through the said conduits, stems
 25 on the said valve plates, said stems overlapping one another and being formed with rack teeth on adjacent faces, a gear meshing with said rack teeth, and means for

rotating said gear, comprising an electric motor, a slidable base plate on which said
 30 gear and motor are mounted, and means for shifting said base plate to cause the valves to be moved inversely in unison between open and closed positions.

5. In a ship, a pair of water conduits
 35 extending longitudinally through the ship, propeller wheels in said conduits, means for driving said propeller wheels, a pair of slidable valve plates for controlling the flow of water through the said conduits, stems
 40 on the said valve plates, said stems overlapping one another and being formed with rack teeth on adjacent faces, a gear meshing with said rack teeth, and means for rotating said gear, comprising an electric
 45 motor, a slidable base plate on which said gear and motor are mounted, and means for shifting said base plate to cause the valves to be moved inversely in unison between open and closed positions, includ-
 50 ing a threaded shaft fixed to said base plate, a gear-nut on said shaft, and means for rotating said gear-nut.

In testimony whereof I have affixed my signature.

LOUIS ZSIKI.