L. PAVESE.

MANUALLY PROPELLED BOAT.

APPLICATION FILED OCT. 25, 1916. RENEWED SEPT. 10, 1917.

1,244,073. Patented Oct. 23, 1917.

Fig. 1.

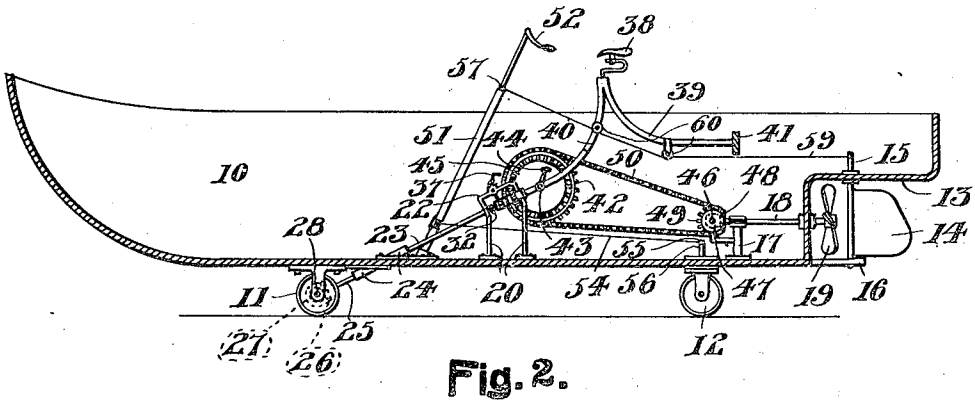


Fig. 2.

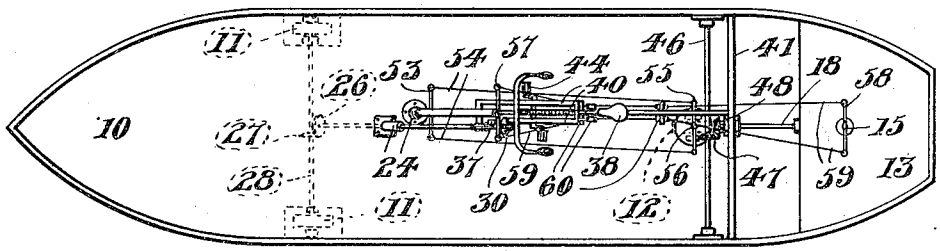


Fig. 4.

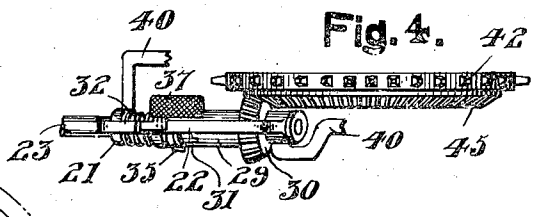


Fig. 3.

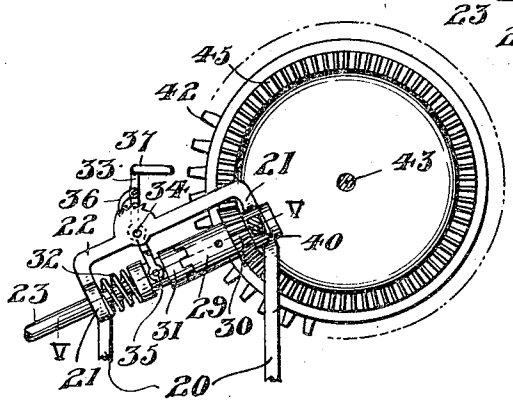
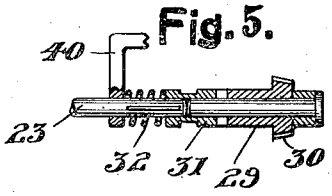


Fig. 5.



Inventor
L. Pavese

By N. M. Wilson

Attorney

UNITED STATES PATENT OFFICE.

LUIGI PAVESE, OF HOBOKEN, NEW JERSEY.

MANUALLY-PROPELLED BOAT.

1,244,073. Specification of Letters Patent. Patented Oct. 23, 1917.

Application filed October 25, 1916, Serial No. 127,574. Renewed September 10, 1917. Serial No. 190,660.

To all whom it may concern:

Be it known that I, LUIGI PAVESE, a subject of the King of Italy, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Manually-Propelled Boats, of which the following is a specification.

This invention relates to certain new and useful improvements in manually propelled boats.

The primary object of the present invention is to provide a manually propelled boat with driven and steering wheels carried by the bottom thereof whereby the boat may be caused to be driven over land as a manually propelled vehicle.

A further object of the invention is to provide a device of the character disclosed in which there is provided a unitary driving device for a boat structure operating a water propeller screw and land wheels.

A still further object of the invention is to provide a boat adapted for use in water and on land with manually operated mechanism within the boat adapted selectively to drive a water propeller screw and land wheels.

With the above general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be hereinafter more fully described and then claimed.

In the accompanying drawing forming a part of this application and to which reference is had herein by like characters designating corresponding parts throughout the several views:—

Figure 1 is a longitudinal sectional view of a boat constructed in accordance with the present invention illustrating the manually propelled operating mechanism therefor.

Fig. 2 is a top plan view thereof.

Fig. 3 is an enlarged fragmentary view of a portion of the operating mechanism illustrating the clutch mechanism between the land roller operating shaft and the power sprocket wheel.

Fig. 4 is a fragmentary detail view of the mechanism shown in Fig. 3 in top plan, and

Fig. 5 is a sectional view of a portion of the clutch mechanism.

Referring more in detail to the accompanying drawing, the reference numeral 10 designates the hull of a boat that is adapted to be supported by land wheels 11 and 12, the wheels 11 being forwardly positioned and adapted to be driven by mechanism to be later described while the wheel 12 is rearwardly positioned and is adapted to be shifted to constitute a steering wheel.

The stern of the boat has the bottom thereof angularly disposed as at 13, to provide a space beneath the boat for the rudder 14 carried by the shaft 15 that is journaled in an angular portion 13 of the boat at its upper end and is supported at its lower end in the reawardly extending bracket 16. A standard 17 is arranged within the boat 10 and has a journal bearing at its upper end within which the propeller shaft 18 is journaled, the propeller shaft extending through the rear end of the hull as is clearly shown in Fig. 1 with the screw propeller 19 fixed thereon between the rear end of the hull and the rudder 14.

The operating mechanism for the driven land wheels 11 and the propeller 19 is arranged within the boat 10 and includes in detail a supporting frame comprising vertical standards 20 carrying at their upper ends journal bearings 21 that are connected by a yoke 22. A shaft 23 extends through the bearings 21 upon the standards 20 and has the lower end thereof projecting through the bushings 24 upon the boat bottom with the extreme projecting end 25 thereof carrying a beveled gear wheel 26 for engagement with a similar wheel 27 upon the axle shaft 28 for supporting the driven wheels 11. The collar 29 forming one of the elements of a clutch is mounted for rotation upon the upper end of the shaft 23 between the bearings 21 and has fixed thereto a beveled pinion 30. The other element 31 of the clutch is splined on the shaft 23 between the bearings 21 and is engaged by the spring 32 to be normally held in engagement with the clutch sleeve 29. Means is provided for shifting the clutch element 31 and includes a lever 33 pivoted as at 34 to the yoke 22 with the lower end of the lever engaging the clutch element 31 at the point 35. A pawl and ratchet mechanism 36 is carried by the lever 33 and yoke 22, and when the clutch element 31 is shifted by the pedal 37 carried by the lever, the said pawl and ratchet mechanism will hold the clutch in adjusted position.

The operator's seat 38 is mounted on a frame including a rearwardly projecting

portion 39 and a forward forked portion 40. A cross bar 41 extending between the sides of the boat 10 supports the rearwardly projecting portion 39 of the frame while the forwardly projecting forked portion has the left leg thereof extending to the adjacent bearing 21 while the right leg thereof extends to the forward bearing 21 as shown in Fig. 4. A sprocket wheel 42 is fixed to a crank shaft 43 journaled between the fork 40 while pedals 44 are carried by the outer projecting ends of the crank. A beveled gear wheel 45 is fixed to one side face of the sprocket wheel 42 and is adapted to remain in constant mesh with the beveled pinion 30 upon the shaft 23. A transversely extending shaft 46 arranged adjacent the standard 17 supports a beveled gear 47 which is in mesh with the beveled gear 48 upon the propeller shaft 18. A sprocket wheel 49 is fixed to the shaft 46 and is driven by the sprocket wheel 42 through the medium of the sprocket chain 50.

The steering mechanism includes a steering post 51 having handle bars 52 at its upper end and carrying a cross arm 53 adjacent its lower end which has a cord connection 54 with a cross arm 55 upon the vertical journal bearing 56 for the steering wheel 12. Another cross arm 57 is carried by the steering post 51 adjacent the upper end thereof and is connected to a cross arm 58 upon the shaft 15 of the rudder 14, by the connecting cords 59 which pass over guide pulleys 60.

The operator being upon the seat 38, operates the pedals 44 and imparts rotary motion to the sprocket wheel 42 which is transmitted to the propeller 19 by the chain and gear connections above described. By shifting the steering shaft 51 by the handles 52 the rudder 14 may be moved to the desired side for purposes of steering the boat in a prescribed direction. With the clutch elements 29 and 31 connected as shown in Fig. 3, power from the sprocket wheel 42 is communicated to the shaft 23 by the gears 30 and 45, which motion is communicated to the driven wheels 11 by the beveled gears 26 and 27 and the shaft axle 28. The rear steering wheel 12 is shifted in an obvious manner upon movement of the handle bars 52.

While the form of the invention herein shown and described is what is believed to be the preferable embodiment thereof, it is nevertheless to be understood that minor changes may be made in the form, proportion and details of construction without departing from the spirit and scope of the invention as hereinafter claimed.

What I claim as new is:—

1. A manually propelled boat including a hull, supporting wheels therefor, a shaft journaled in said hull, a propeller shaft journaled in said hull, a screw propeller upon the outer projecting end of said propeller shaft, manually operable means for said propeller shaft and first named shaft, connecting means between the first named shaft and the forward supporting wheels, a rudder, and means for simultaneously shifting the rudder and the rear supporting wheel.

2. A device of the class described comprising a boat, a driven shaft journaled therein, a two part clutch member carried by said shaft, a beveled pinion carried by one of the clutch parts, a seat supporting frame mounted in said boat, a relatively large sprocket wheel journaled in said frame, a beveled gear wheel carried thereby in mesh with said beveled pinion, a shaft journaled transversely of the boat, a relatively small sprocket wheel thereon having a chain connection with the large sprocket wheel, a propeller shaft and propeller carried thereby journaled in said boat, meshing gears carried by the propeller shaft and the said transverse shaft, a rudder, a steering wheel, means for shifting the rudder and steering wheel, driven wheels, and operative connections between the first named shaft and driven wheels.

In testimony whereof I affix my signature.

LUIGI PAVESE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."