May 3, 1949. A. MONTALBANO 2,468,889

PORTABLE PROPELLING APPARATUS FOR SMALL FISHING CRAFT

Filed May 1, 1947

2 Sheets-Sheet 1

Fig. 1

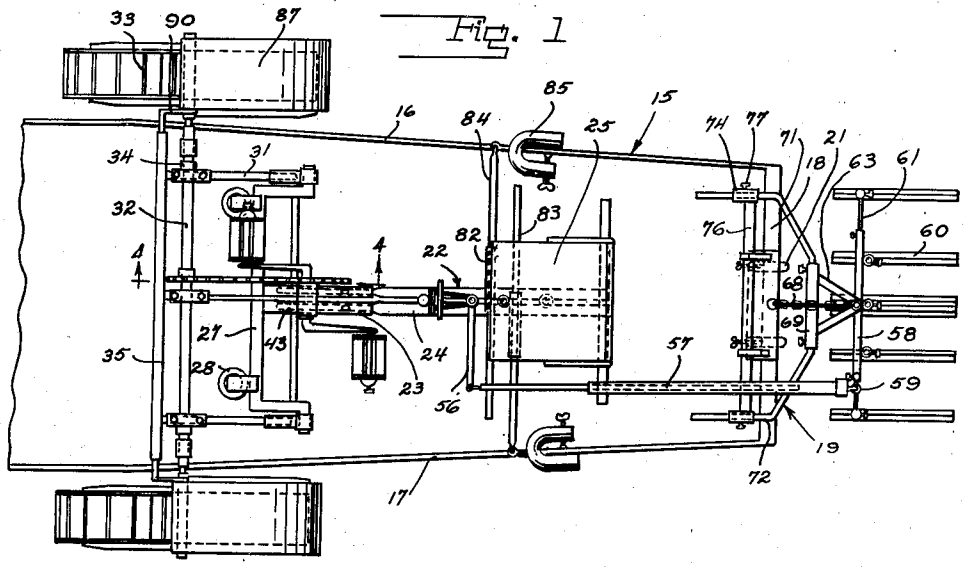
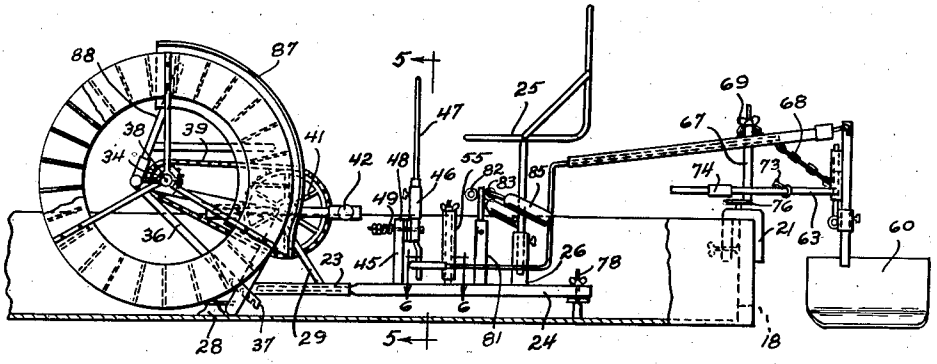


Fig. 2



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Fig 3

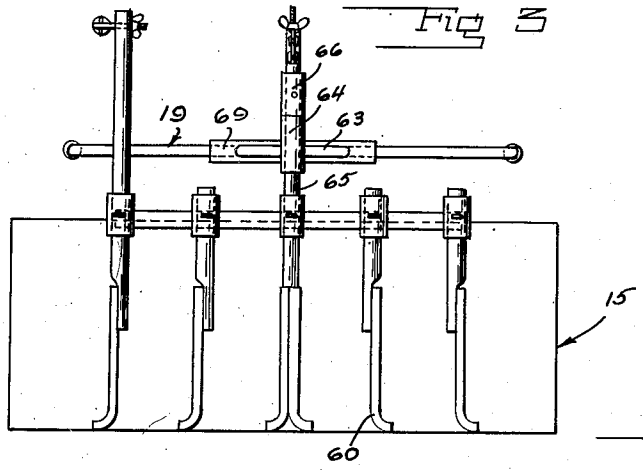


Fig 5

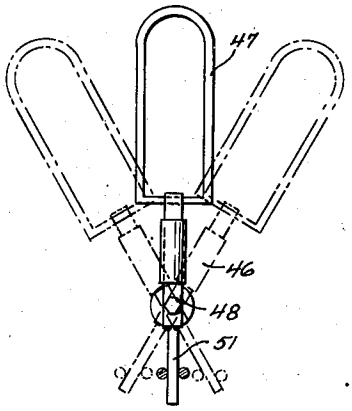


Fig 4

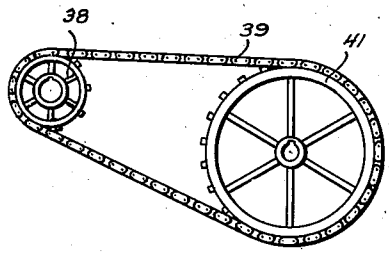


Fig 7

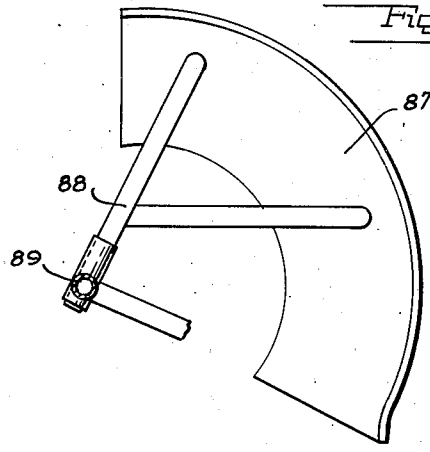
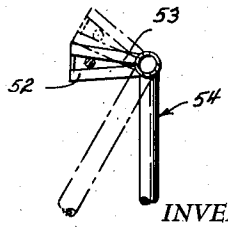


Fig 6



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PORTABLE PROPELLING APPARATUS FOR SMALL FISHING CRAFT

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Application May 1, 1947, Serial No. 745,278

6 Claims. (Cl. 115—25)

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This invention relates to portable propelling and steering apparatus for boats, canoes and the like.

It is an object of the present invention to provide a propelling and steering apparatus which is of light weight construction, easy to install in a boat, and adjustable throughout for adaptation to different size boats.

It is another object of the present invention to provide a steering rudder arrangement having multiple rudders so that the same will be effective in slow water and wherein the outer rudders can be adjusted at the ends of the arrangement so as to extend into the fast moving water leaving the sides of the boat so as to add to the effectiveness of the rudder arrangement and also to provide adjustable parts within the rudder arrangement so that the same can be placed at different depths in the water.

It is another object of the present invention to provide the propelling water wheels with means for retaining the same at any one of several adjusted positions and at different depths within the water.

It is another object of the present invention to provide with the arrangement a seat which will be carried by the same and which will be located adjacent a steering lever positioned in front of the seat and past which the legs of the operator can extend along opposite sides thereof for engagement with the treadles of the sprocket drive mechanism for the water wheels.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a top plan view of my propelling and steering apparatus mounted in a boat and ready for use.

Fig. 2 is a side elevational view of the apparatus shown in Fig. 1 and with portions of the boat being broken away to show the apparatus.

Fig. 3 is an enlarged rear elevational view of the steering arrangement.

Fig. 4 is an elevational view of the sprocket and chain device as viewed on line 4—4 of Fig. 1 and looking in the direction of the arrows, the chain and sprocket being used to propel the water wheel.

Fig. 5 is an elevational view of the steering control handle taken on line 5—5 of Fig. 2 and looking in the direction of the arrows thereof.

Fig. 6 is a fragmentary top plan view looking upon the bell crank to which the control element is attached and as viewed on line 6—6 of Fig. 2 and looking in the direction of the arrows thereof.

Fig. 7 is a side elevational view of the water wheel guard for preventing water from entering the boat from off the water wheel.

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Referring now to the figures, 15 represents a boat having sides 16 and 17 and a rear board 18 to which a steering arrangement 19 is attached by means of clamps 21 forming a part of the steering arrangement. The propelling arrangement is indicated generally at 22 and includes telescopically adjustable frame members 23 and 24 adapted to extend centrally of the boat and adjustable to different lengths depending upon the leg length of the operator sitting on an operator's station 25 adjustably connected in an upstanding sleeve 26 fixed to the rear end of the member 24. Connected to the forward end of the members 23 is a U-shaped member 27 having vacuum cups 28 attached thereto and adapted for fixing the arrangement at the forward end thereof to the bottom of the boat 15. This U-shaped member is extended upwardly and is fixed in this position by braces 29. The outer ends of the U-shaped member have arms 31 pivoted thereon to the free ends of which there is connected a drive shaft 32 for water wheels 33. The connection of the shaft is effected by journal bearings 34 extending rearwardly from a transverse member 35 carried on the arms 31. Depending from this member 35 is a brace arm 36 which is adjustable to have its notches 37 disposed upon a projection to hold the water wheels in any one of several elevated positions depending upon the number of notches provided in brace arm 36. The shaft 32 has a small sprocket 38 over which is extended a chain 39 connected rearwardly to a large driving sprocket 41 having pedal cranks 42 thereon adapted to be reached by the legs of the operator. This sprocket 41 is journalled in an upwardly extending arm 43 fixed at its lower end to the U-shaped member 27.

Extending upwardly from the member 24 is a standard 45 to which there is pivoted for lateral shifting movement a control element 46 having a detachable handle 47 easily accessible to the operator's station 25. The control element is secured to the standard by a pivot bolt 48 and is urged toward the same and into tight frictional engagement therewith by a spring 49 on the bolt. This spring can be adjusted to any tightness.

Depending downwardly from the control element 46 is an operating arm 51 which extends into a slot 52 on an arm 53 of a bell crank 54 pivoted on a vertically extending member 55 fixed to the frame member 24. This bell crank 54 has a laterally extending arm 56 which operates a connecting link or rod 57 attached at its rearward end to a transversely extending rudder supporting member 58 as shown at 59. This rudder supporting member has attached thereto a plurality of rudder elements 60. Outer rudder elements are connected to slides 61 so as to be adjustable outwardly from the ends of the supporting member 58 in order to be able to locate

the outer rudders in the fast moving water leaving the sides of the boat.

The supporting member 58 is pivoted to a bracket 63 so that the gang of rudders can be adjusted by the rod 57. The bracket 63 has a vertically extending sleeve 64 in which a vertically extending rod 65 is journalled and retained against vertical displacement from the sleeve 64 by a collar 66. On the clamps 21 is an upstanding member 67 to which the upper end of a chain 68 is connected by a wing nut 69. The lower ends of this chain is connected to the bracket 63. The bracket includes a sleeve 69' which can be adjusted on laterally disposed members 71 and 72 and fixed in the adjusted position by set screws 73. The members 71 and 72 are adjustable fore and aft through sleeves 74 carried on opposite ends of a transversely extending plate 76 carried on the clamps 21. The members 71 and 72 are held in their adjusted positions in the sleeve 74 by set screws 77. By the use of these members and the sleeve 74 the rudder arrangement can be adjusted to different distances from the rear board 18 according to the wishes of the operator. Also it will be apparent that by the use of the adjustable bracket 63 that the rudders can be located at different depths in the water.

The rear end of the frame member 24 is secured to a bolt 78 fixed to the bottom of the boat for the purpose whereby the arrangement will be positively retained against longitudinal displacement within the bottom of the boat. Extending upwardly from the member 24 is a standard 81 having laterally extending sleeves 82 and 83 at opposite sides of the same and through which are respectively adjustable brace elements 84 adapted to have their outer ends connected by a clamp to the sides of the boat. This clamp is indicated at 85.

These brace rods 84 will prevent the frame from tilting sidewise and will thus maintain the water wheels 33 at the same depth within the water.

Over the water wheels 33 there are disposed water guards 87 to prevent the water from being directed into the boat from the water wheels. These guards are supported on brackets 88 having a transversely extending sleeve 89 adapted to be angularly adjusted on the shaft and fixed against rotation by a member or arm 90 extending from the transverse member 35.

It should now be apparent that there has been provided a light weight propelling and steering apparatus which can be adapted to different size boats, easily installed therein and effectively braced.

Having now described my invention, I claim:

1. A portable propelling apparatus for boats and the like comprising a longitudinally adjustable frame adapted to extend along the center of the boat, a U-shaped member connected to the forward end of the frame and extending upwardly therefrom, attaching devices on the U-shaped member for detachably connecting the frame to the bottom of the boat, arms connected to the upper end of the U-shaped member for pivotal movement in a vertical plane, a shaft journalled on the free ends of the arms and extending across the boat, water wheels fixed to the shaft and adapted to extend into the water at the opposite sides of the boat, and means for retaining the arms and the shaft in any one of several vertically adjusted positions whereby to effect the adjustment of the water wheels to different depths within the water.

2. A portable propelling apparatus for boats and the like as defined in claim 1, a bracket portion extending upwardly from the U-shaped member, a pedal crank journalled in the bracket and chain and sprocket means connecting the crank with the transversely extending shaft for driving the water wheels, and an operator's station on the frame in position to reach the pedal crank.

3. A portable propelling apparatus for boats and the like as defined in claim 1, and an adjustable standard extending upwardly from the frame, transversely extending sleeves connected to the standard at opposite sides thereof respectively, rods laterally adjustable through the sleeves and clamps on the rods adapted to connect the outer ends of the rods to the sides of the boat whereby to brace the frame against sidewise tilting and to maintain the water wheels at the opposite sides of the boat at the same depth.

4. A propelling and steering apparatus adapted to be removably secured to a boat comprising a frame extending longitudinally along the bottom of the boat and secured thereto at the respective ends thereof, a transversely extending shaft extending across the boat with water wheels thereon adapted to engage the water, means for adjustably securing the shaft to the frame so that the water wheels can be disposed in the water at different depths, foot pedal mechanism extending between the frame and the shaft for rotating the shaft and the water wheels, an operator's station on the frame accessible to the foot pedal mechanism, a steering control element connected to the frame for lateral shifting movement at a location thereon between the operator's station and the foot pedal mechanism, said steering control element being adapted to be connected with a rudder arrangement at the rear of the boat.

5. A propelling and steering apparatus as defined in claim 4 and a steering arrangement adapted to be detachably connected to the rear of the boat, said steering arrangement comprising clamping members and a transverse member connected to the clamping member, members connected to the opposite ends of the transverse member for fore and aft adjustment, a bracket connected to the rear ends of the fore and aft adjustable members for vertical pivotal adjustment, a rudder supporting member connected to the bracket member for pivotal movement about a vertical axis, and rudder elements connected to the rudder supporting member in transversely spaced relationship thereon, and linkage extending between the steering control element and the rudder supporting arm to pivot the same to steer the boat.

6. A propelling and steering apparatus as defined in claim 4 and a rudder arrangement adapted to be detachably connected to the rear of the boat and including a transversely extending rudder supporting member, a plurality of rudders connected to the rudder supporting member in transversely spaced relationship thereon, and means for connecting the outer rudder elements for lateral adjustment on the rudder supporting member so that the outer rudder elements can be projected into the water leaving the sides of the boat, and linkage extending between the steering control elements and the rudder supporting member.

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No references cited.