Oct. 11, 1949. A. MONTALBANO 2,484,720

FOOT POWER PROPELLER

Filed Nov. 17, 1947 4 Sheets-Sheet 1

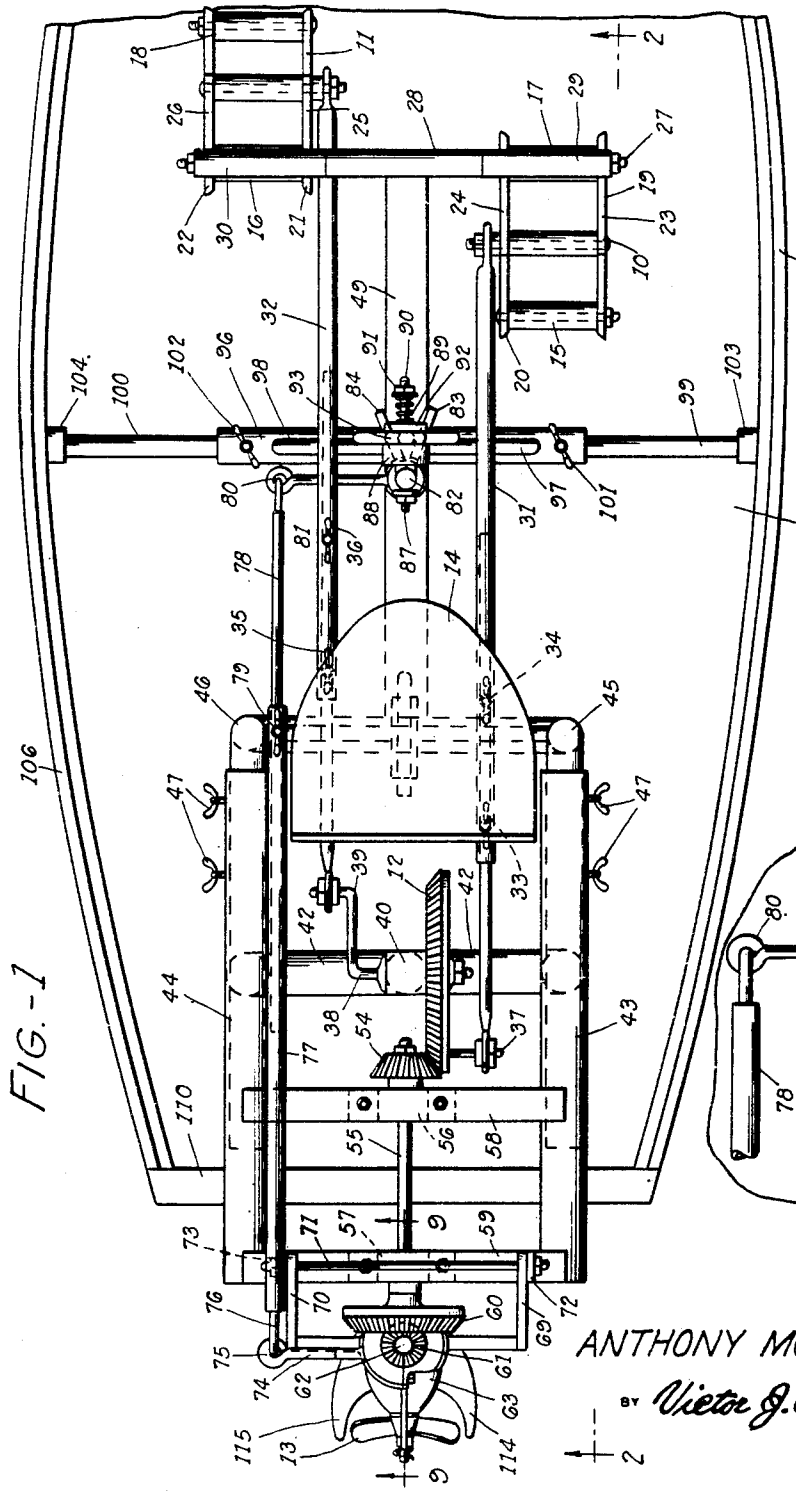


FIG. - 1

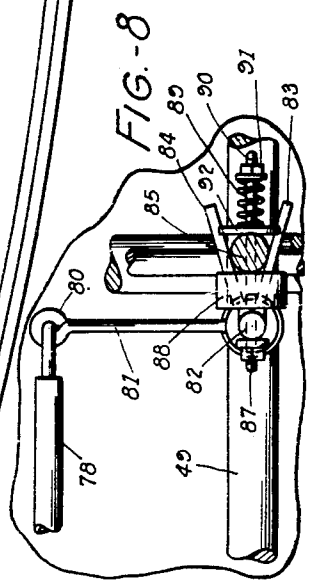


FIG. - 8

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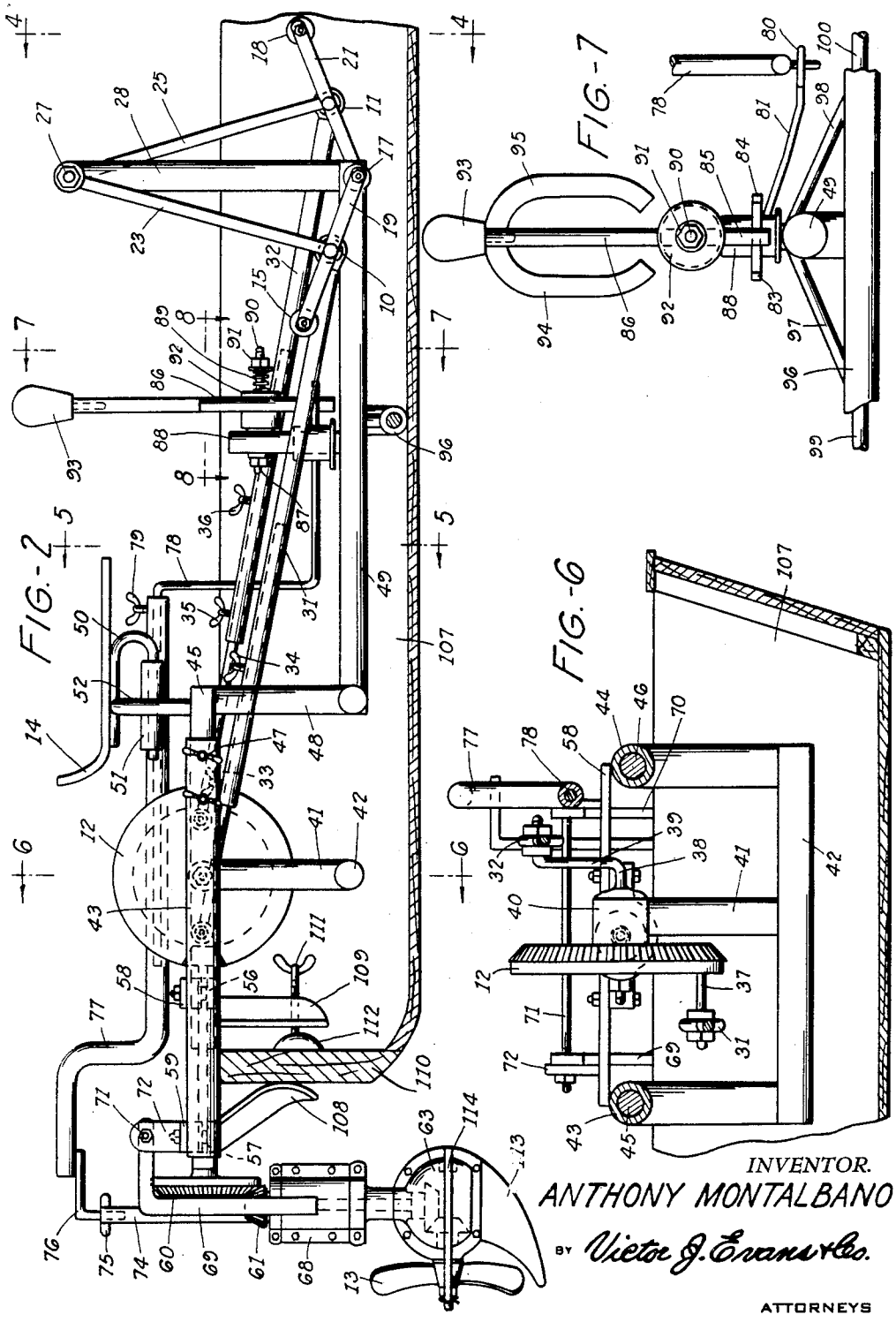


FIG. 2

FIG. 7

FIG. 6

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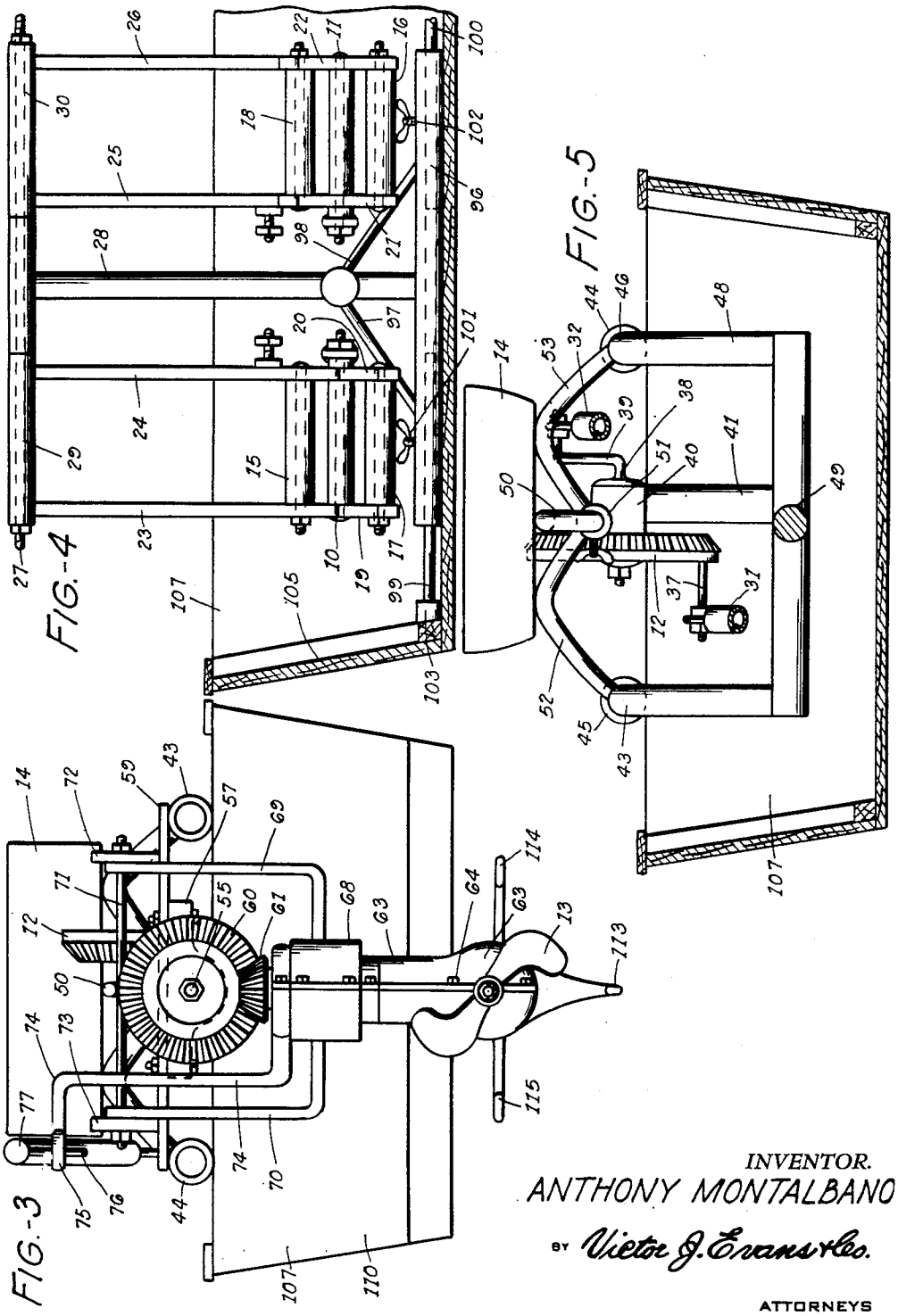


FIG.-4

FIG.-5

FIG.-3

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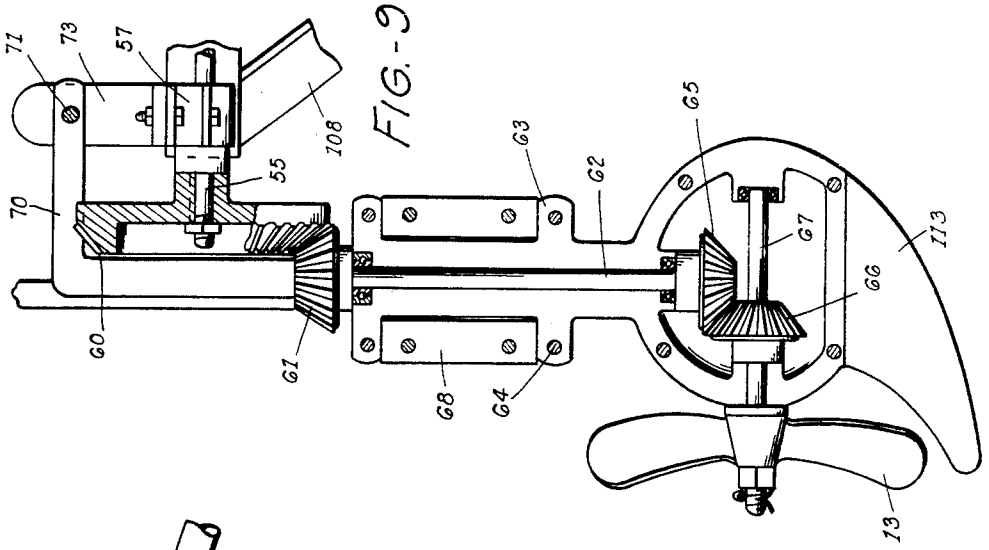


FIG.-9

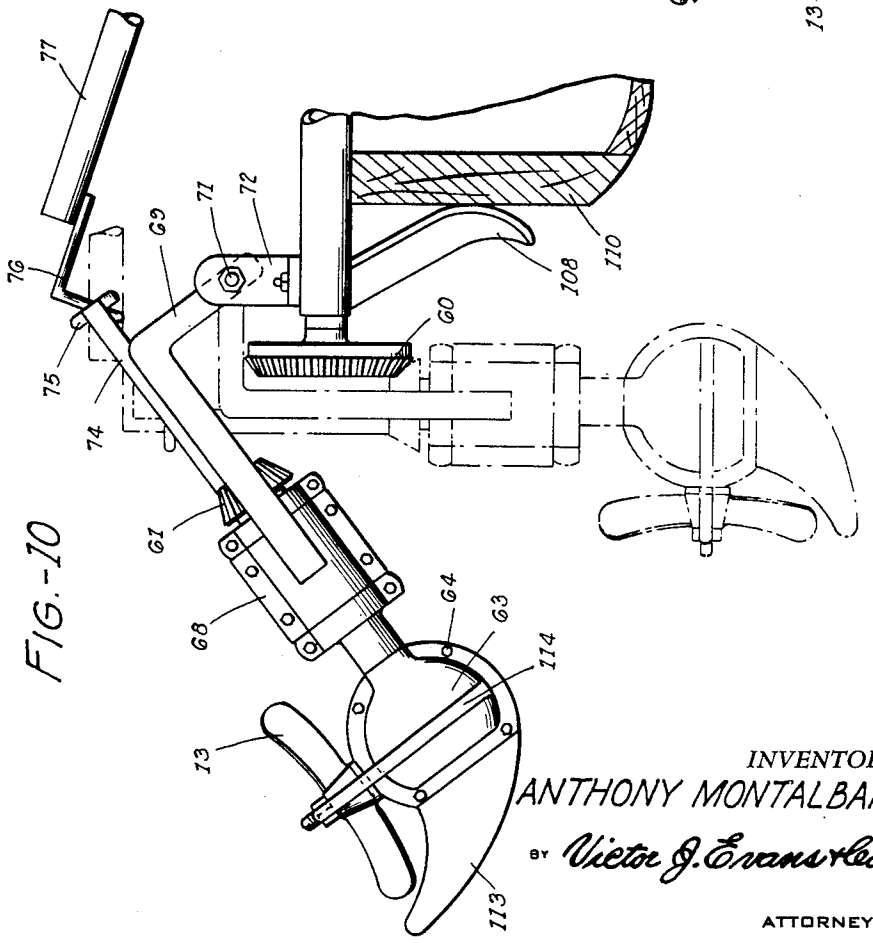


FIG.-10

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UNITED STATES PATENT OFFICE

2,484,720

FOOT-POWER PROPELLER

Anthony Montalbano, Baton Rouge, La.

Application November 17, 1947, Serial No. 786,350

5 Claims. (Cl. 115—25)

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This invention relates to foot-operated propelling devices particularly adapted to operate propellers of small boats or similar craft, and in particular a frame having a propeller mounting unit and a propelling unit both of which may readily be mounted on a boat with the propeller suspended at the stern and the propelling unit positioned to be actuated by a fisherman or other occupant of the boat.

The purpose of this invention is to provide a simple unit similar to an outboard motor that may readily be carried on a motor vehicle to and from the water that may readily be installed by a fisherman, or other party, on a small boat or craft and used to propel and steer the boat.

Various types of attachments have been provided in combination with outboard motors for reducing the speed for trolling and fishing, but it is difficult to regulate a power actuated motor so that it is adapted for use in operating propellers of fishing craft.

With this thought in mind this invention contemplates a foot-propelled combination having a seat in combination with pedals wherein the pedals are connected through a suitable eccentric and gears to a propeller, and the parts are mounted in portable frames that may readily be placed in a row boat or other fishing or pleasure craft.

The object of this invention is to provide means for mounting a propeller and foot-actuated propelling means therefor so that the device may be carried to and from a boat and readily installed in a boat for use.

Another object of the invention is to provide foot-actuated propelling means for boats that may be operated by a fisherman while fishing.

Another object of the invention is to provide foot-actuated propelling mechanism for boats and the like that may be installed by the average layman.

Another object of the invention is to provide foot-actuated propelling means for boat propellers that may be taken apart and removed from the boat in a comparatively few minutes.

Another object of the invention is to provide a foot-propelled propeller operating mechanism with which a fisherman may both propel and steer the boat while fishing and wherein the propelling and steering instrumentalities are actuated by the feet and legs leaving the hands free for fishing.

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A further object of the invention is to provide a foot-actuated propeller operating mechanism for boats and the like which is of a simple and economical construction.

With these and other objects and advantages in view the invention consists of the new and novel combination, construction, and arrangement of parts as hereinafter more fully described, set forth in the claims appended hereto, and disclosed in the accompanying drawings forming part hereof, wherein:

Figure 1 is a plan view of the foot-propelling mechanism showing the device in the stern of a boat with the bow of the boat broken away.

Figure 2 is a longitudinal section through the stern of the boat taken on line 2—2 of Figure 1 showing a side elevation of the device.

Figure 3 is an end elevation looking toward the stern of the boat.

Figure 4 is a cross section through the boat showing the pedal mounting mechanism, taken on line 4—4 of Figure 2.

Figure 5 is a similar section through the boat taken on line 5—5 of Figure 2 showing the seat supporting members.

Figure 6 is a similar section, with part broken away, taken on line 6—6 of Figure 2, showing the eccentric gear.

Figure 7 is also a similar section with the boat omitted, on line 7—7 of Figure 2 showing the steering post.

Figure 8 is a sectional plan through the steering post taken on line 8—8 of Figure 2, with parts broken away.

Figure 9 is a vertical section through the propeller mounting parts with parts broken away and parts omitted, taken on line 9—9 of Figure 1.

Figure 10 is a section similar to that shown in Figure 9 showing the propeller in an elevated position.

Referring now to the drawings wherein like reference characters indicate corresponding parts the propeller operating mechanism of this invention includes pedal mounting shafts 10 and 11, an eccentric gear 12, and a propeller 13.

The pedals are actuated by the feet of an operator in a seat 14 with the feet on the near rollers 15 and 16, whereby the boat may readily

be propelled for fishing, and in taking the boat out or in returning a second operator, positioned in the opposite direction, may assist in operating the boat, with his feet on the rollers 17 and 18. The rollers are mounted in the ends of side bars 19 and 20, on the shaft 10, and 21 and 22 on the shaft 11 and the side bars are fixedly attached to the lower ends of arms 23 and 24, on one side and 25 and 26 on the other, as shown in Figure 4. The arms are pivotally mounted on a transverse horizontal shaft 27 at the upper end of a post 28, by hubs 29 and 30, and the lower ends are connected to the eccentric gear 12 by telescoping tubular rods 31 and 32, the lengths of which may readily be adjusted by thumb screws 33 and 34 in the rod 31, and 35 and 36 in the rod 32.

The opposite end of the rod 31 is connected to one side of the gear 12 through a pin 37, and the corresponding end of the rod 32 is connected to the gear through a shaft 38 having an off-set end 39, as shown in Figure 1. The shaft 38 is rotatably mounted in a bearing 40 at the upper end of a post 41 that extends upward from a cross bar 42 that is suspended from side bars 43 and 44 of the frame as shown in Figure 6. The side bars 43 and 44 are provided with telescoping sections 45 and 46 that are adjustably held therein by set screws 47, and the sections 45 and 46 are connected to a U-shaped yoke 48, the lower part of which is connected to a bar 49 on the opposite end of which the post 28 is mounted.

The seat 14 is mounted on the frame by a U-shaped rod 50 in a hub 51 which is suspended by arms 52 and 53 from the sections 45 and 46 of the side bars, as shown in detail in Figure 5.

The gear 12 meshes with a pinion 54 on a shaft 55 mounted in bearings 56 and 57 in struts 58 and 59 of the frame, and on the opposite end of the shaft is a gear 60 that meshes with a pinion 61 on a vertical shaft 62, as shown in Figures 3 and 9. The shaft 62 is rotatably mounted in a split bearing housing 63 held by bolts 64 and at the lower end of the shaft is a gear 65 that meshes with a gear 66 on a propeller shaft 67 that is journaled in the housing 63 as illustrated in Figure 9. It will therefore be observed that as the fisherman or operator works the pedals the eccentric gear 12 will rotate and this, through the intermediate gears in which the gear ratio is stepped up, will spin the propeller.

The propeller housing 63 is rotatably mounted in a hub 68, which as shown in Figure 3, is carried by a U-shaped bracket with arms 69 and 70 that are pivotally mounted on a shaft 71 in bearings 72 and 73 extending upward from the strut 59, and the propeller housing with the propeller may be rotated in order to steer the boat by an arm 74 with an eye 75 at the upper end, and the eye is controlled by a pin 76 extending downward from a control rod 77, as shown in Figures 1, 2 and 3.

The rod 77 is provided with a telescoping section 78 that is adjustably held by a set screw 79, and the forward end of the section 78 is pivotally held in an eye 80 at the end of an arm 81, as shown in Figure 1, so that as the arm 81 is moved forward and backward the rod 77, through the arm 74 turns the propeller housing. The arm 81, as shown in detail in Figure 8, is fixedly mounted on the lower end of a post 82 and a fork with arms 83 and 84 is also provided on the post, and as the lower end 85 of a vertical bar 86 moves laterally the fork turns the post 82 and the post turns the arm 81. The bar 86 is pivotally mounted on a pin 87 in a stand 88 and is frictionally held by a spring 89 on a bolt 90, as shown in Figure 8, with a nut 91 on the outer end of the bolt and a washer 92 against the bar. The upper end of the bar 86 is provided with a knob 93 by which it may be actuated by hand, and below the knob are downwardly extending bumpers 94 and 95, as shown in Figure 7, by which the bar 86 may be actuated laterally by the knees or legs of the operator.

The lower part of the frame is provided with a transverse support formed by a tubular member 96 which is connected to the bar 49 by braces 97 and 98, and in the ends of the member 96 are telescoping bars 99 and 100 which are adjustably held by thumb screws 101 and 102. The bars 99 and 100 are provided with enlarged outer end 103 and 104 to facilitate gripping the sides 105 and 106 of a boat 107.

The frame is provided with downwardly extending arms 108 and 109, by which it may be secured on the stern 110 of the boat, as shown in Figure 2, and the arm 109 is provided with a clamping screw 111 with a friction member 112 on the inner end thereof.

The propeller housing 63 is provided with a guard 113 at the bottom, and guards 114 and 115 at the sides to protect the propeller

With the parts arranged in this manner a fisherman may readily propel and steer a boat with his hands absolutely free to handle the fishing lines, and although the device is described as particularly adapted for fishing it may also be used for other purposes.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention, and the device may be permanently installed in a boat, and it will also be noted that the propeller may be elevated to a position out of the water, as shown in Figure 10, when not in use.

What is claimed is:

1. A foot propelled propeller operating mechanism comprising a frame, means removably mounting the frame on a boat or the like, a propeller housing suspended at one end of the frame, a hub pivotally mounted on the frame in which the propeller housing is pivotally mounted, a seat for an operator mounted on the forward part of the frame, means turning the propeller housing in the said hub from a position adjacent the said seat, foot pedals operatively mounted in the frame at a point in front of the said seat, a propeller carried by the said propeller housing and means rotating the propeller as the foot pedals are operated.

2. A foot propelled propeller operating mechanism comprising a frame, means removably mounting the frame on a boat or the like, a propeller housing suspended at one end of the frame, a hub pivotally mounted on the frame in which the propeller housing is pivotally mounted, a seat for an operator mounted on the frame, a pivotally mounted post positioned to extend between the legs of an operator on the seat, means connecting the post to the propeller housing wherein lateral movement of the post turns the housing in the hub, foot pedals operatively mounted in the frame at a point in front of the said seat, a propeller carried by the said propeller housing and means operatively connecting the foot pedals to the propeller.

3. A foot propelled propeller actuating mechanism comprising a frame, means removably

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mounting the frame on a boat or the like, a propeller housing positioned at one end of the frame, a hub pivotally mounted on the frame and suspended therefrom in which the propeller housing is pivotally mounted, a seat mounted on the frame, leg actuating means positioned in front of the seat and connected to the propeller housing whereby the propeller housing is turned by the legs of an operator on the seat for steering, foot pedals pivotally suspended in the frame positioned in front of the seat, a gear, a shaft transversely positioned in the frame providing rotatable mounting means for the gear, rods connected to the pedals and eccentrically connected to the gear, a propeller carried by the said propeller housing and transmission means connecting the gear to the propeller for operation thereof.

4. In a foot-propelled propeller operating mechanism, a stationary frame, a propeller frame, means hingedly connecting the propeller frame to one end of the stationary frame, means removably mounting the stationary frame in a boat or the like, a hub suspended in the propeller frame, a propeller housing pivotally mounted in the said hub, an upwardly extending arm positioned on the propeller housing, a seat

on the stationary frame, a steering post pivotally mounted in front of the seat, means connecting the steering post to the arm of the propeller housing wherein lateral movement of the post turns the housing, a stationary post also positioned in front of the seat and mounted on the stationary frame, foot pedals suspended from said stationary post, a main gear positioned on the stationary frame, means eccentrically connecting the pedals to the said main gear, a propeller carried by the said propeller housing and means rotating the propeller by the said main gear.

5. In a foot propelled propeller actuating mechanism, a stationary frame, means removably mounting the said stationary frame in a boat or the like, means clamping the stationary frame in the boat, a propeller frame hingedly connected to one end of the stationary frame, a propeller rotatably and pivotally mounted in the said propeller frame, knee actuated means on the stationary frame for turning the position of the propeller, foot pedals on the stationary frame, and means rotating the propeller by the said foot pedals.

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No references cited.