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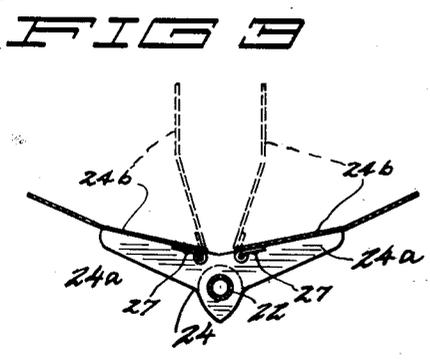
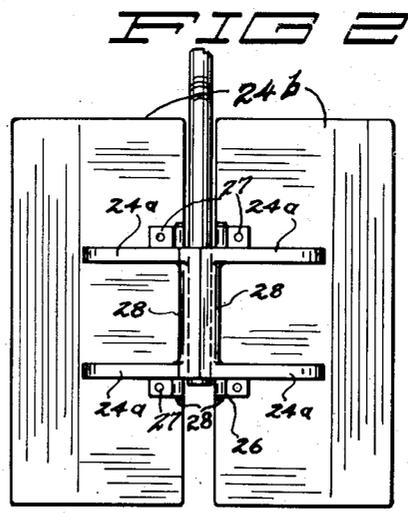
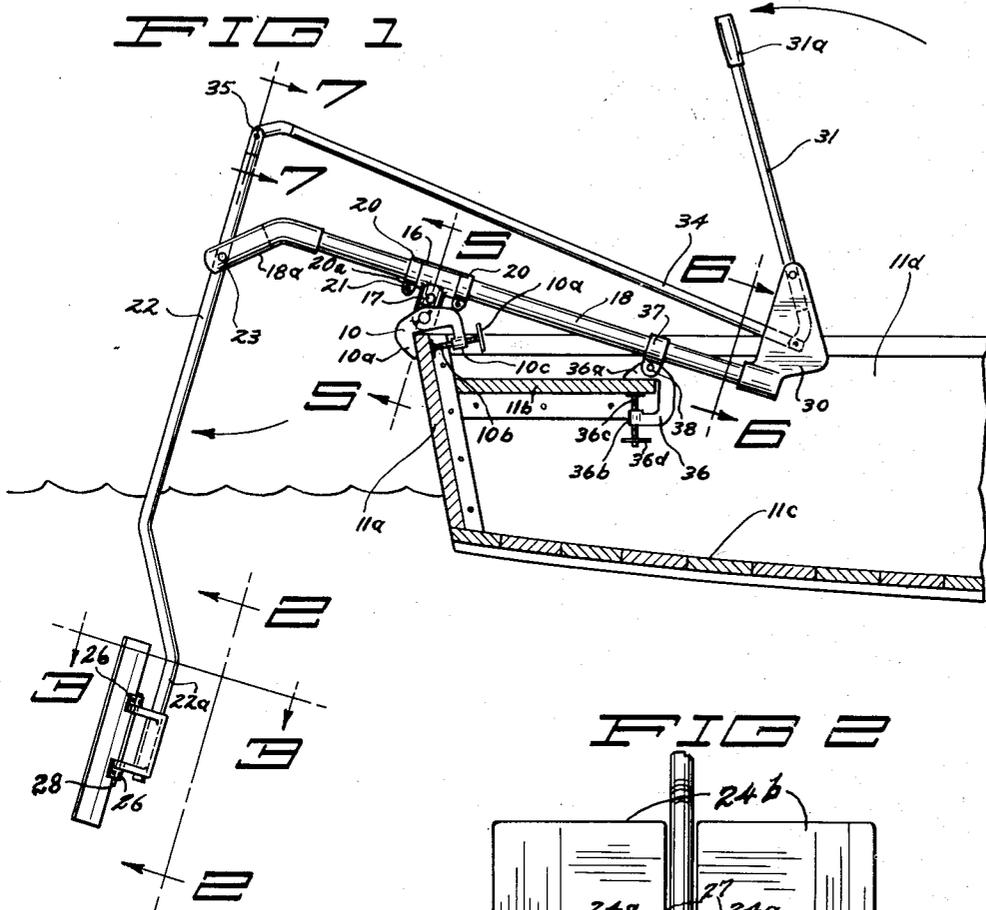
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2,628,586

TROLLING PROPELLING MEANS FOR BOATS

Filed May 10, 1949

2 SHEETS—SHEET 1



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354

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2 SHEETS—SHEET 2

FIG 4

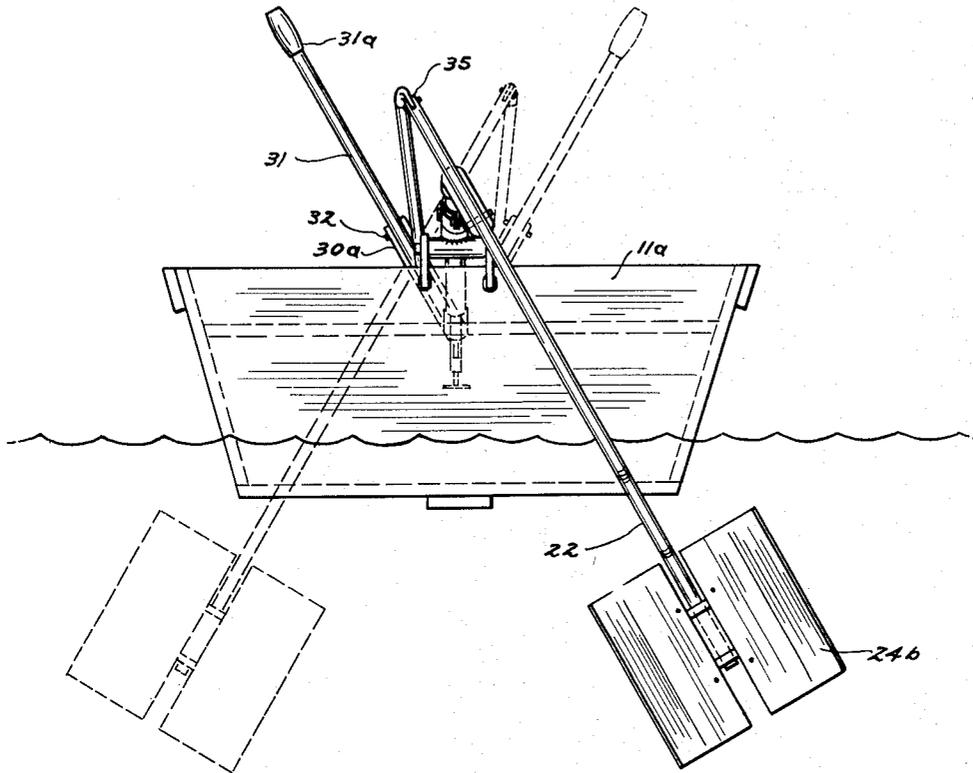


FIG 5

FIG 7

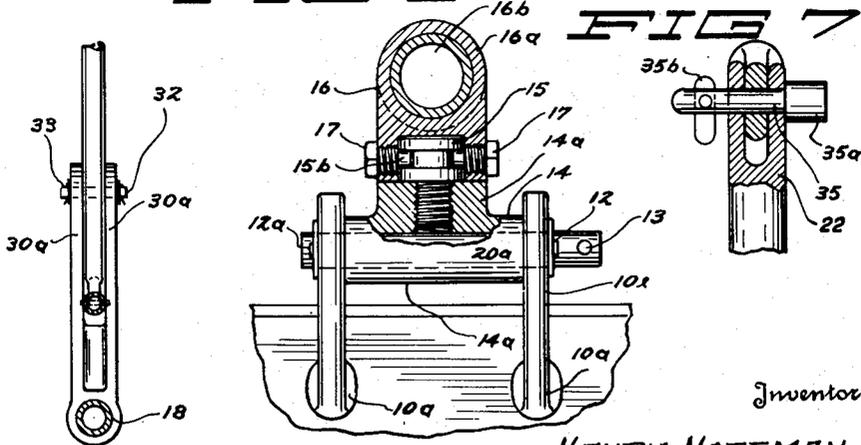


FIG 6

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384

UNITED STATES PATENT OFFICE

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TROLLING PROPELLING MEANS FOR BOATS

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7 Claims. (Cl. 115—29)

1

This invention relates to a device for propelling a boat and particularly to a device for propelling a boat at slow speed as when one is trolling a fishing line and bait. It is desirable when the operator of a small boat is fishing and trolling to move the boat slowly and it is also desirable to have means by which the boat can readily be turned or guided.

It is an object of this invention to provide a simple and efficient device which can be easily actuated by the operator to move the boat slowly and to guide or turn the boat, which device can be easily operated by one hand so that the other hand can be used for holding a fishing rod.

It is a further object of the invention to provide a simple and efficient propelling device for a boat comprising a member constituting a clamp adapted to be secured to a rear portion of said boat, an elongated member of small transverse dimension secured to said member and having a portion projecting to the rear of said boat and a second portion projecting forwardly in said boat, a lever pivoted adjacent the rear end of said first mentioned portion about a substantially horizontal axis, a paddle carried by the lower end of said lever and adapted to be disposed in the water, a hand lever pivoted adjacent the end of said second portion and a link connecting the upper end of said first mentioned lever and said hand lever, said elongated member being rotatable about a substantially longitudinal axis whereby said hand lever can be oscillated to oscillate said first mentioned lever and paddle, and said hand lever and elongated member can be moved about the axis of said elongated member to move said paddle laterally and guide or turn said boat.

It is also an object of the invention to provide such a device as set forth in the preceding paragraph, together with a second clamping member adapted to be clamped to a boat seat, said member having a portion through which said elongated member passes and in which it is rotatable.

It is another object of the invention to provide such a device as set forth in the preceding paragraph save one, said first mentioned lever having a bracket secured to its lower end having oppositely extending arms with rearwardly directed surfaces extending at a very obtuse angle approximating a straight angle and a pair of plates adapted to engage said surfaces and being pivoted to said arms adjacent their inner sides whereby said plates can swing toward each other upon forward movement of the lower portion of said first mentioned lever and will swing outwardly

2

against said arms upon rearward movement of said bracket and plates.

It is still further an object of the invention to provide such a device as previously set forth in which said hand lever is pivoted to an upstanding bracket rigidly secured to the forward end of said elongated member.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 is a view in side elevation of the device of this invention, the same being shown as secured to a boat, the rear portion of which is shown in vertical section;

Fig. 2 is a rear view of a paddle used, as seen from line 2—2 of Fig. 1 looking in the direction of the arrow;

Fig. 3 is a section taken on line 3—3 of Fig. 1, as indicated by the arrows;

Fig. 4 is a view in rear elevation of the device and boat to which it is attached, different positions of the parts being shown in dotted lines;

Fig. 5 is a vertical section taken on line 5—5 of Fig. 1, as indicated by the arrows;

Fig. 6 is a section taken on line 6—6 of Fig. 1, as indicated by the arrows; and

Fig. 7 is a partial section taken on line 7—7 of Fig. 1 showing a locking device used.

Referring to the drawings a device is shown comprising a member 10 which comprises a pair of spaced clamping jaws 10a adapted to engage a rear portion of a boat, such as the transom 11a of the boat shown in Figs. 1 and 4. A rear seat 11b of said boat is also shown which extends forwardly from transom 11a. The bottom 11c and sides 11d of said boat are also shown. Member 10 also comprises a pair of movable clamping jaws 10b respectively aligned longitudinally with jaws 10a and having stems threaded in spaced hubs 10c of member 10, said stems being provided with operating handles 10d. Member 10 also has laterally spaced arms 10e extending from jaws 10a to the hubs 10c which are bored to receive a shaft or pin 12 extending through and between arms 10e. Shaft 12 projects at one side of one of the arms 10e and is bored to receive a pin 13 the ends of which are enlarged to retain it in pin 12. The other end of pin 12 is provided with a head 12a which engages the outer side of the other arm 10e. A member 14 is provided having a hub 14a which is journaled on pin or shaft

12 and disposed between and extending between arms 10e. Member 14 has an upstanding central boss 14a which is bored and threaded centrally to receive the lower threaded stem 15a of a stud 15 having a cylindrical upper portion with top and bottom flat surfaces and which is provided with an annular groove 15b in its peripheral portion. Groove 15b is substantially rectangular in cross section. A member 16 is provided having a depending central cylindrical portion which is bored to fit over portion 15b of member 15. A pair of screws 17 are threaded into the sides of member 16 and have inner reduced portions disposed in groove 15b. Member 16 at its upper end has a bearing portion 16a which is provided with a central bore 16b. The axis of bore 16b extends at right angles to the axis of shaft 14. An elongated member 18 is provided of general rod-like form and which in actual practice has been made of tubular material. Member 18 is journaled in bore 16b of member 16 and the same has secured thereto spaced collars 20 which engage the respective ends of portion 16a. Collars 20 are shown as having spaced radially projecting arms 20a which are bored or apertured to receive clamping bolts 21. Member 18 is thus oscillatable or rotatable about a substantially longitudinal axis in the member 16. Member 18 has a rear end portion 18a which has a terminal portion extending downwardly at an angle, said portion being bifurcated to receive therein a lever 22 of rod-like form. Lever 22 is pivotally connected to portion 18a by a transversely extending pivot pin 23. Lever 22 extends in a general downward direction and is bent to have a rearwardly offset lower portion 22a. Rigidly secured to portion 22a is a bracket 24. Bracket 24, as shown in Figs. 2 and 3, has pairs of oppositely extending transversely aligned arms 24a. The forward sides of arms 24a have surfaces 24b which in the oppositely extending arms diverge at a very obtuse angle which is almost a straight angle. Small brackets 26 are secured to the rear of plates 24b at the remote sides of the arms 24a and these may be secured in any suitable manner, as by rivets 27. Brackets 26 have hubs which are bored to receive pivot pins 28 which extend through said hubs and arms 24a. Plates 24b are thus hingedly connected to bracket 24 and these plates can swing or fold toward each other, as indicated in the dotted lines in Fig. 3.

A bracket 30 is rigidly secured to the inner end of member 18 and this bracket has parallel plate-like portions 30a projecting upwardly from member 18, as shown in Fig. 6. A lever 31 is provided, the lower end of which is disposed between portions 30a and is pivoted to said portions by a pin 32. Pin 32 may be held in place by any suitable means, such as the cotter pins 33 shown in Fig. 6. The lower end of lever 31 is bifurcated and receives between the sides thereof the flattened end of a link 34, which link is flattened at its other end and disposed between the sides of the bifurcated upper end of lever 22 to which it is pivoted by the pivot pin 35. Lever 31 is provided with a handle 31a at its upper end.

Another member 36 is provided which is in the form of a clamp. Member 36 has an upper portion 36a forming one clamping jaw thereof and has a hub 36b aligned with portion 34a. A movable jaw 36c has a stem threaded into hub 36b and provided with a transversely extending operating handle 36d. A semi-cylindrical clip 37 is pivotally connected to member 36 by a pin 38. Member 37 extends about member 18 and member 18 is

rotatable about its longitudinal axis in member 37.

As shown in Fig. 7, the pivot pin 35 extends through the fork or bifurcated end of lever 22 and said pin has a cylindrical head 35a the periphery of which preferably is knurled. Pin 35 is bifurcated at its other end and has pivoted between the sides thereof a small flat plate 35b. Plate 35b can be turned to the position shown in full line to retain pin 35 in lever 22, and if it is desired to remove pin 35, plate 35b can be swung to the dotted line position where it is in longitudinal alignment with pin 35 so that pin 35 can be readily withdrawn. Pivot 23 has a structure similar to pivot 35.

In operation the device will be attached to the transom 11a by means of the clamp portion of member 10. Said clamp portion will be tightened by rotating the handles 10d. Member 36 will be secured to the front edge of the boat seat 11b. Member 37 is movable along member 18 so that member 36 can be positioned to accommodate seats of various width. The member 36 is not absolutely necessary to the device as the device can be rigidly secured to the boat by member 10. The operator will sit on seat 11b and reciprocate or oscillate lever 31 by taking hold of handle 31a. When lever 31 is moved forwardly its lower end moves rearwardly and through link 34 moves the upper end of lever 22 rearwardly. The lower end of lever 22 and the plates 24 are disposed below the surface of the water, as shown in Fig. 1. As the lower end of lever 22 and bracket 28 move forwardly, the plates 24 swing or fold toward each other and come into substantially parallel relation, as shown in dotted lines in Fig. 3. The resistance of the water is thus greatly reduced. As the operator pulls lever 31 rearwardly, as indicated by the arrow in Fig. 1, the lower end of said lever moves forwardly and through link 34 pulls the upper end of lever 22 forwardly. This moves the lower end of lever 22 and plates 24 rearwardly. The plates 24 are moved away from each other by resistance of the water and they swing against the arms 24a, as shown in full lines in Fig. 3. Movement of plates 24 rearwardly propels the boat forwardly. If it is desired to turn or guide the boat, the operator has merely to swing the lever 31 to one side or the other, as shown in Fig. 4. When lever 31 is then reciprocated the boat will be turned in one direction or the other in accordance with the direction of turning of lever 31. Lever 31 can be readily turned as member 18 is revoluble in sleeve 16a of member 16. When bracket 36 is not used, member 18 can be readily moved laterally with lever 31 without being rotated on its longitudinal axis as it can swing about the axis of stud 15. The operator can thus easily propel the boat in any desired direction or can turn the same by merely reciprocating lever 31 with one hand. He can hold a fishing rod with his other hand and thus either cast the bait or troll the bait in the rear of the boat. He can propel the boat very slowly or he can obtain quite a little speed.

From the above description it will be seen that I have provided a very simple and efficient propelling device for a boat which is particularly designed for the convenience of a fisherman. The parts of the device are made principally of aluminum or an aluminum alloy so that the device is quite light in weight. The parts fold together nicely so that it can be easily carried. The device has been amply demonstrated in actual practice,

5

found to be very successful and efficient and is being commercially made.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the parts, without departing from the scope of applicant's invention, which generally stated, consists in a device capable of carrying out the objects above set forth, in the parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:

1. A propelling device for a boat having in combination, a member comprising a clamp adapted to be clamped to a rear portion of a boat, an elongated member carried by said member projecting rearwardly of said boat and extending forwardly in said boat, said elongated member being rotatable about an axis extending longitudinally thereof, a lever pivoted intermediate its ends to said elongated member adjacent the rear end thereof, a paddle secured to the lower end of said lever adapted to be disposed in the water in which said boat is movable, a bracket connected to the front end of said elongated member and a second lever pivoted to said bracket, and a link connecting said second lever to the upper portion of said first mentioned lever whereby said second mentioned lever can be oscillated and said first mentioned lever will be moved coordinately to reciprocate said paddle and said paddle may be moved laterally by rotation of said elongated member.

2. A propelling device for a boat having in combination, a member comprising a clamp adapted to be secured to a boat transom, an elongated rod-like member secured to said member and extending forwardly and rearwardly therefrom and being rotatable about a substantially longitudinal axis, said elongated member having a rear portion extending rearwardly of said boat, a lever pivoted to said rearwardly extending portion adjacent its outer end and extending downwardly, a paddle secured to the lower end of said lever, said elongated member having a forwardly extending portion in said boat, a coupling member secured to the front end of said elongated member and a hand lever pivoted to said coupling member, and a link connecting the upper end of said first mentioned lever with the lower end of said second lever whereby when said hand lever is oscillated said first mentioned lever is moved coordinately and said paddle is reciprocated and said paddle can be moved laterally by lateral movement of said hand lever and rotation of said elongated member.

3. The structure set forth in claim 2, and a third member adapted to be clamped to the side of a boat seat forwardly of said transom and having a portion through which said elongated member passes and in which it is oscillatable.

4. The structure set forth in claim 2, a bracket

6

secured to the lower end of said first mentioned lever having oppositely extending arms with surfaces forming a very obtuse angle, said paddle comprising a pair of plates having portions adapted to engage said surfaces respectively and being pivoted to said arms at their adjacent sides.

5. The structure set forth in claim 1, said first mentioned member having an upstanding portion pivotally connected thereto, said upstanding portion having a bore therethrough adapted to extend longitudinally of said boat, said elongated member being journaled in said bore and being rotatably secured therein.

6. The structure set forth in claim 2, said first mentioned member having an upstanding portion pivotally connected thereto, said upstanding portion having a bore therethrough adapted to extend longitudinally of said boat, said elongated member being journaled in said bore and being rotatably secured therein.

7. A propelling device for a boat having in combination, a member having means to secure the same to the transom of a boat, a second member rotatably carried by said member extending longitudinally of said boat and having portions extending rearwardly and forwardly of said boat, a lever pivotally connected intermediate its ends to the rear portion of said second member and extending upwardly and downwardly of the same, a paddle secured to the lower end of said lever and adapted to be disposed in the water in which said boat is movable, a bracket secured to the forward end of said second member, a second lever extending upwardly adjacent the forward portion of said second member and pivotally connected to said bracket adjacent its lower end, means to connect the upper end of said first mentioned lever to the lower end of said second mentioned lever whereby said paddle can be moved reciprocally and laterally by manual operation of said second lever.

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