Jan. 31, 1939. W. K. COLESON 2,145,586

MECHANICAL ROWBOAT

Filed Dec. 2, 1937

Fig. 1.

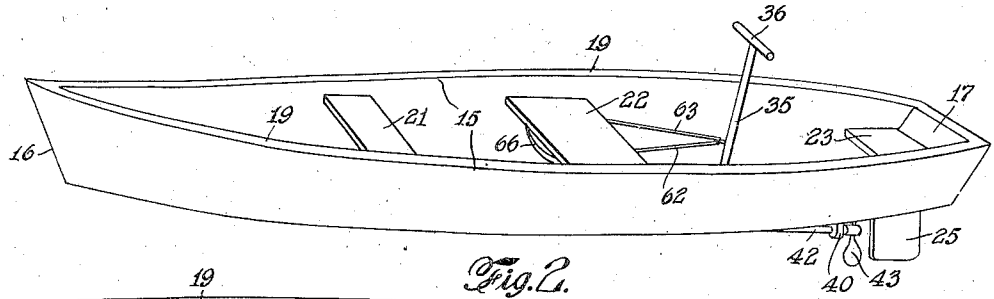


Fig. 2.

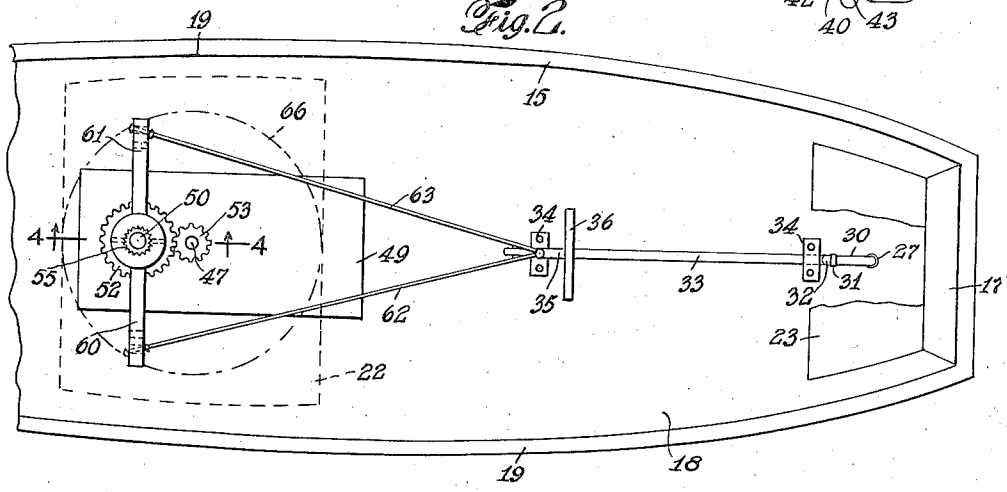


Fig. 3.

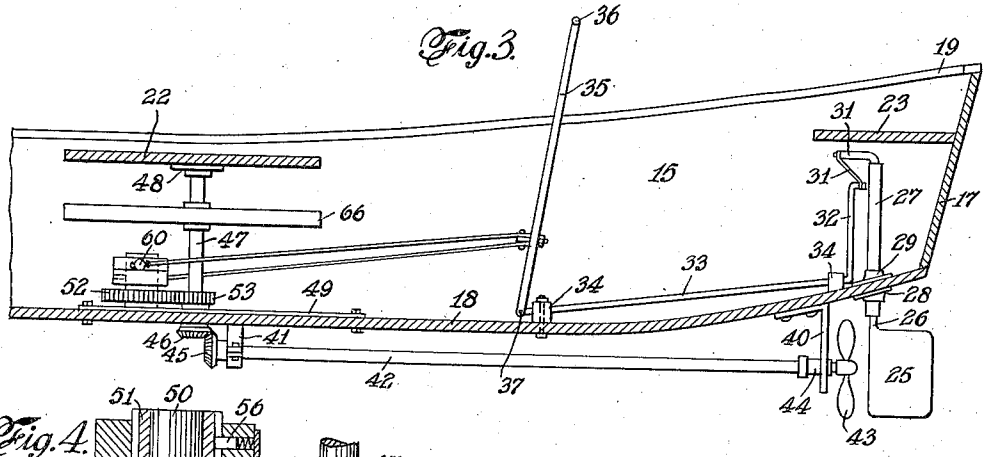
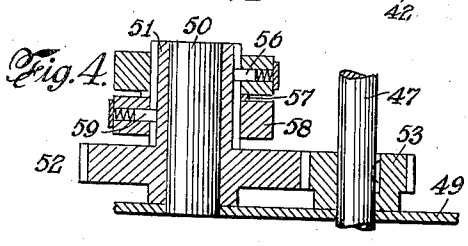


Fig. 4.



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MECHANICAL ROWBOAT

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2 Claims. (Cl. 115—24)

This invention relates to propelling and steering means for water craft, with particular reference to small craft row boats, driven by oars.

One of the objects of this invention is to provide a simple, yet efficient mechanism, that can be installed in such types of boats, either when built, or later as an auxiliary attachment.

A further feature lies in the provision of a single, hand operated lever having the double purpose of advancing the boat through the water and also of steering it.

It is another purpose to produce a novel and practical mechanism, whereby one person is enabled to drive and guide the boat unaided.

These and other advantageous aims, such as the use of unoccupied space in the boat, ease and simplicity of operation, perfect control of speed and direction, and inexpensiveness, are attained by the novel construction and combination of parts hereinafter described and shown in the accompanying drawing, constituting a material component of this disclosure, and in which:

Figure 1 is a perspective view of a conventional type of small boat showing the application of an embodiment of the invention.

Figure 2 is a plan view of the rear portion of the same, drawn to an enlarged scale.

Figure 3 is a longitudinal sectional view looking along the center line of Figure 2.

Figure 4 is an enlarged detail sectional view of the drive gearing, taken on line 4—4 of Figure 2.

Referring in greater detail to the drawing, the boat will be seen to consist of a hull, the sides 15 converging to a sharp bow 16 at the front, and connected at the rear or stern by a back 17, shown disposed at an angle to meet the floor 18.

The usual molding or rim 19 is used as a finish and re-enforcement for all upper edges and connecting between the sides, at a suitable height above the floor, are seats 21, 22 and 23, the latter being in the stern of the boat.

In the present embodiment, a rudder 25 is disposed below the floor 18, which is preferably inclined upwardly at the rear, the rudder having a post 26 rotatably mounted in a tube 27 held upright in a bracket 28 fixed on the bottom of the boat and a mating bracket 29 on the floor; the upper end 30 of the steering post is bent at a right angle to extend directly opposite the blade of the rudder, and underneath the rear seat 23.

Attached to the angular extremity of the rudder post 30 is a flexible element 31 connecting with the raised upright bar 32, the main portion 33 of which is bent substantially parallel to the inclined portion of the floor 18 and mounted in spaced brackets 34 secured to the floor.

The extreme forward end of the bar 33 projects through the adjacent bearing and is engaged by the lower end of a lever 35 provided with a handle 36 at its top, the lever being pivoted, as at 37, to the bar, so that it can be rocked forward and back, or tilted sidewise, in which event the rudder will be moved correspondingly, while oscillating the lever without lateral motion has no effect upon the rudder.

A down-reaching bracket 40 is rigidly secured to the bottom of the boat, forwardly of the rudder, and a shorter bracket 41 is similarly fixed to the bottom at a point considerably further in advance.

Mounted in these bearings is a shaft 42 having fixed on its rear end a bladed screw propeller 43, provided with a thrust bearing 44 and clearing the rudder 25; on the forwardly extending end of the propeller shaft 42 is a bevel gear 45 meshed with a mating gear 46 fixed on an upright shaft 47 which passes, in a suitable water-tight bearing through the floor of the boat, the upper end of the shaft being housed in a bearing 48 secured to the under side of the fixed seat 22.

A rigid plate 49 is fixed on the floor 18 to which the lower bearing for the shaft 47 is secured; also on this plate is fixed a stud 50 on which is rotatably mounted a sleeve 51.

The sleeve 51 has fixed on its lower end a spur gear 52 in mesh with a spur pinion 53 secured on the projecting end of the shaft 47.

This sleeve is formed with ratchet teeth above the gear and encircling the sleeve is a ring 55 in which is a spring pressed pawl 56 operatively engaging the ratchet teeth in one direction and slipping freely over the teeth when the ring is turned in an opposite direction.

A collar 57 acts as a separator for another ring 58, in which is a spring pressed pawl 59, oppositely formed to actuate the sleeve 51 when turned.

An arm 60 is formed on the ring 55 and a corresponding arm 61 extends radially from the ring 58.

Attached to the ends of these arms are rods 62 and 63 respectively, effecting continuous rotation of the gear train and consequently of the propeller 43, this effect being enhanced by a flywheel 66 on the shaft 47. Openings are provided in both arms 60 and 61, to which the rods 62 and 63 may be secured if a shorter leverage is desired.

It is to be noted that the drive mechanism is

below the seat, hence entirely out of the way; that the labor of driving the boat is easily done by merely oscillating the lever **35**, steering as may be desired by tilting the lever sideways, without interrupting the motion of the boat.

Although the foregoing is generally descriptive of the best known embodiment of the invention, it will be understood that such changes and modifications may be resorted to as may come within the scope of the appended claims, without departure from the spirit of the invention.

Having thus described the invention and set forth the manner of its construction and operation, what is claimed as new and sought to secure by Letters Patent, is:

1. In a boat having a propeller and a rudder, a gear train within the bottom of the boat body to drive said propeller, an upright stud fixed in said body, a sleeve rotatable on said stud, said sleeve having peripheral ratchet teeth, spaced rings revoluble on said sleeve having spring pressed pawls to engage the teeth of the sleeve to actuate said gear train intermittently, a universally mounted hand lever, flexible connection between said lever and rings whereby continuous rotary movement is obtained, and means combined with said lever for simultaneously operating said propeller and rudder.

2. In a boat having a propeller and a rudder, a gear train within the bottom of the boat body to drive said propeller, an upright shaft driven by said train, a flywheel on said shaft, a stud fixed parallel to said shaft, a sleeve rotatable on said stud, said sleeve having circumferential ratchet teeth, rings respectively upper and lower rotatable on said stud, said rings having spring pressed radial pawls engageable with the teeth of said sleeve, a gear on said sleeve to actuate said gear train, a single hand lever central of the boat operatively connected with said rings, a universal mount for said lever, and means actuated by said lever when tilted laterally to turn said rudder.

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