Jan. 14, 1930. S. QUISLING 1,743,978

PROPULSION MECHANISM

Filed Jan. 28, 1929

Fig. 1.

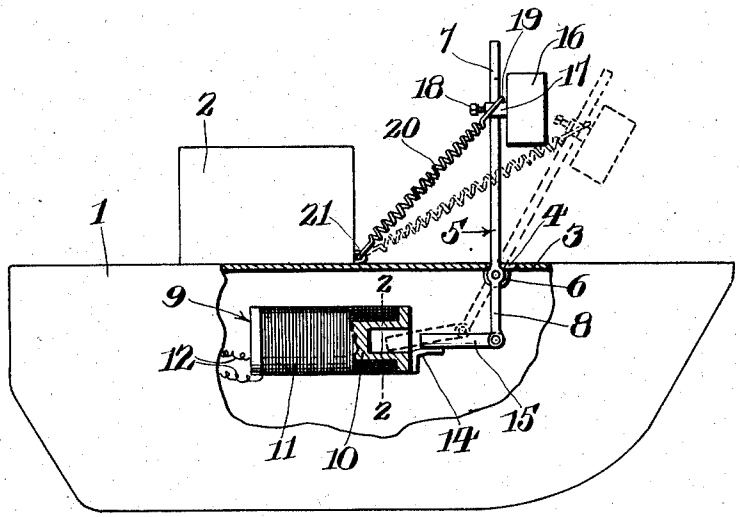


Fig. 2.

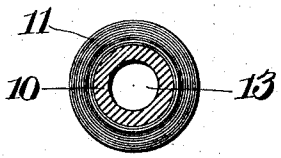
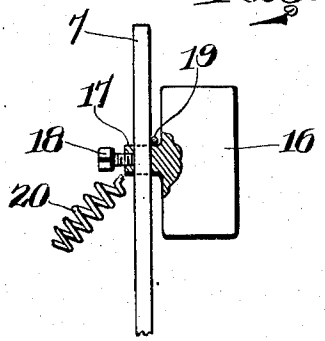


Fig. 3.



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PROPULSION MECHANISM

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This invention relates to a propulsion mechanism adaptable for use in connection with boats, vehicles, aeroplanes, or the like, and has for its primary object to provide, in a manner as hereinafter set forth, a mechanism of such class whereby high speeds may be attained in the movement of the object with which the mechanism is connected.

A further object of the invention is to provide a mechanism of the above-mentioned class, in which the principle of inertia is employed for the transmission of energy to an object for the purpose of moving the latter.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more particularly described, and as illustrated in the accompanying drawing wherein is shown a preferred embodiment of the invention, but it is to be understood that such drawing and description are to be taken as illustrative and that the invention is intended to be limited only by the scope of the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a side elevation of a boat partly broken away, showing in elevation an embodiment of my invention associated therewith.

Figure 2 is a section taken on line 2—2 of Figure 1.

Figure 3 is an enlarged detail view in sectional elevation, showing the adjustable connection between the weight and lever of the mechanism.

Referring to the drawing in detail, the numeral 1 indicates a boat shown conventionally, having a cabin 2 mounted on the deck 3 thereof. Extending through an opening 4 formed in the deck 3 is a lever 5 which is pivoted in any suitable manner as indicated at 6 to the lower side of the deck 3. The upper portion 7 of the lever projects above the deck and is of materially greater length than the lower portion 8 which projects below the deck.

Mounted below the deck rearwardly of the lower portion 8 of the lever is an electro-magnet indicated generally by the numeral 9 and consisting of a spool-like core 10, about which is wound a plurality of resistance coils 11. Connected with the coils 11 is a pair of conductors 12 which are adapted for connection with any suitable source of electrical energy, not shown. The forward end of the core 10 is formed with a centrally disposed recess 13 which is preferably circular in cross section. Secured to the forward face of the core 10 is a stop element 14 which may be of any suitable insulating material and which projects forwardly of the core 10 for a substantial distance slightly above the horizontal plane of the lowermost portion of the wall of the recess 13. Pivotally connected to the lower end of the portion 8 of the lever is a metal bar 15, the rearward end of which normally rests on the stop element 14.

Carried by the upper portion 7 of the lever is a weight 16 which is provided on its rearward face with a vertically apertured lug 17, through which the upper portion 7 of the lever 5 extends. A set screw 18 is threaded through the rearward wall of the lug 17 for engagement with the upper portion 7 of the lever by means of which the weight 16 may be adjustably secured in position. Encircling the upper portion 7 of the lever and resting on the upper face of the lug 17 is a loop 19 which is formed on the forward end of a coiled spring 20.

The spring 20 extends at a downward and rearward inclination and is secured at its rearward end, as indicated at 21, to the cabin 2. The spring 20 exerts a rearward force on the upper portion 7 of the lever to normally hold the latter against the rearmost portion of the wall of the opening 4, in which position the lever is disposed vertically, with the rearward end of the bar 15 in spaced relation to the forward end of the core 10.

In the operation of my mechanism, the electro-magnet 9 is energized by directing an electrical current through the conductors 12 which causes the bar 15 to be forcefully drawn into the recess 13 of the core 10. The movement of the bar 15 causes the lever 5 to be swung about its pivot whereby the upper portion 7 of the lever, together with the weight 16, is thrown violently in a forward direction. The resistance required to stop the weight 16 when the latter reaches the forward extremity of its path of move-

ment imparts a forward motion to the boat 1. Upon the de-energizing of the electro-magnet 9, the tension of the spring 20 causes the relatively slow return of the lever to its vertical position. It is contemplated that de-energizing and energizing of the electro-magnet 9 will be performed with great rapidity, thereby causing, in connection with the action of the spring 20, a rapid reciprocation of the lever 5 and weight 16 with the forward motion of the latter having materially greater speed than the rearward motion thereof.

It is thought that the many advantages of a propulsion mechanism in accordance with this invention will be readily apparent, and although the preferred embodiment is as illustrated and described, yet it is to be understood that changes in the details of construction may be made, which fall within the scope of the invention as defined in the appended claims.

What I claim is:

1. A propulsion mechanism comprising, a lever adapted for pivotal connection intermediate its ends with a body to be moved, an electro-magnet carried by the body, means carried by one end of the lever for attraction by the electro-magnet upon the energizing of the latter, a weight carried by the opposite end of the lever for violent movement in a forward direction upon the attraction of said means by said electro-magnet, and means for slowly returning said weight to its original position upon the de-energizing of the electro-magnet.

2. A propulsion mechanism comprising, a lever adapted for pivotal connection intermediate its ends with a body to be moved, an electro-magnet carried by the body, means carried by one end of the lever for attraction by the electro-magnet upon the energizing of the latter, a weight carried by the opposite end of the lever for violent movement in a forward direction upon the attraction of said means by said electro-magnet, and means for slowly returning said weight to its original position upon the de-energizing of the electro-magnet, said last named means consisting of a tension spring having its respective ends connected with said lever and body.

3. A propulsion mechanism comprising, a lever adapted for pivotal connection intermediate its ends with a body to be moved, an electro-magnet carried by the body, means carried by one end of the lever for attraction by the electro-magnet upon the energizing of the latter, a weight carried by the opposite end of the lever for violent movement in a forward direction upon the attraction of said means by said electro-magnet, and means for slowly returning said weight to its original position upon the de-energizing of the electro-magnet, said weight being adjustable longitudinally of the lever.

4. A propulsion mechanism comprising, a lever adapted for pivotal connection intermediate its ends with a body to be moved, an electro-magnet carried by the body and including a core formed in its forward end with a recess, a bar connected with one end of the lever for attraction by the electro-magnet upon the energizing of the latter, a weight carried by the opposite end of the lever for violent movement in a forward direction upon the attraction of said bar by said electro-magnet, and means for slowly returning said weight to its original position upon the de-energizing of the electro-magnet.

5. A propulsion mechanism comprising, a lever adapted for pivotal connection intermediate its ends with a body to be moved, an electro-magnet carried by the body and including a core formed in its forward end with a recess, an insulated stop projecting from the forward face of the core adjacent the outer end of said recess, a bar pivotally connected with one end of the lever and having its rearward end resting on said stop for attraction by the electro-magnet upon the energizing of the latter, a weight carried by the opposite end of the lever for violent movement in a forward direction upon the attraction of said bar by said electro-magnet, and means for slowly returning said weight to its original position upon the de-energizing of the electro-magnet.

In testimony whereof, I affix my signature hereto.

SVERRE QUISLING.