

L. D. KISSACK.
MARINE ENGINE GOVERNOR.
APPLICATION FILED MAY 19, 1908.

921,714.

Patented May 18, 1909.

FIG. 1.

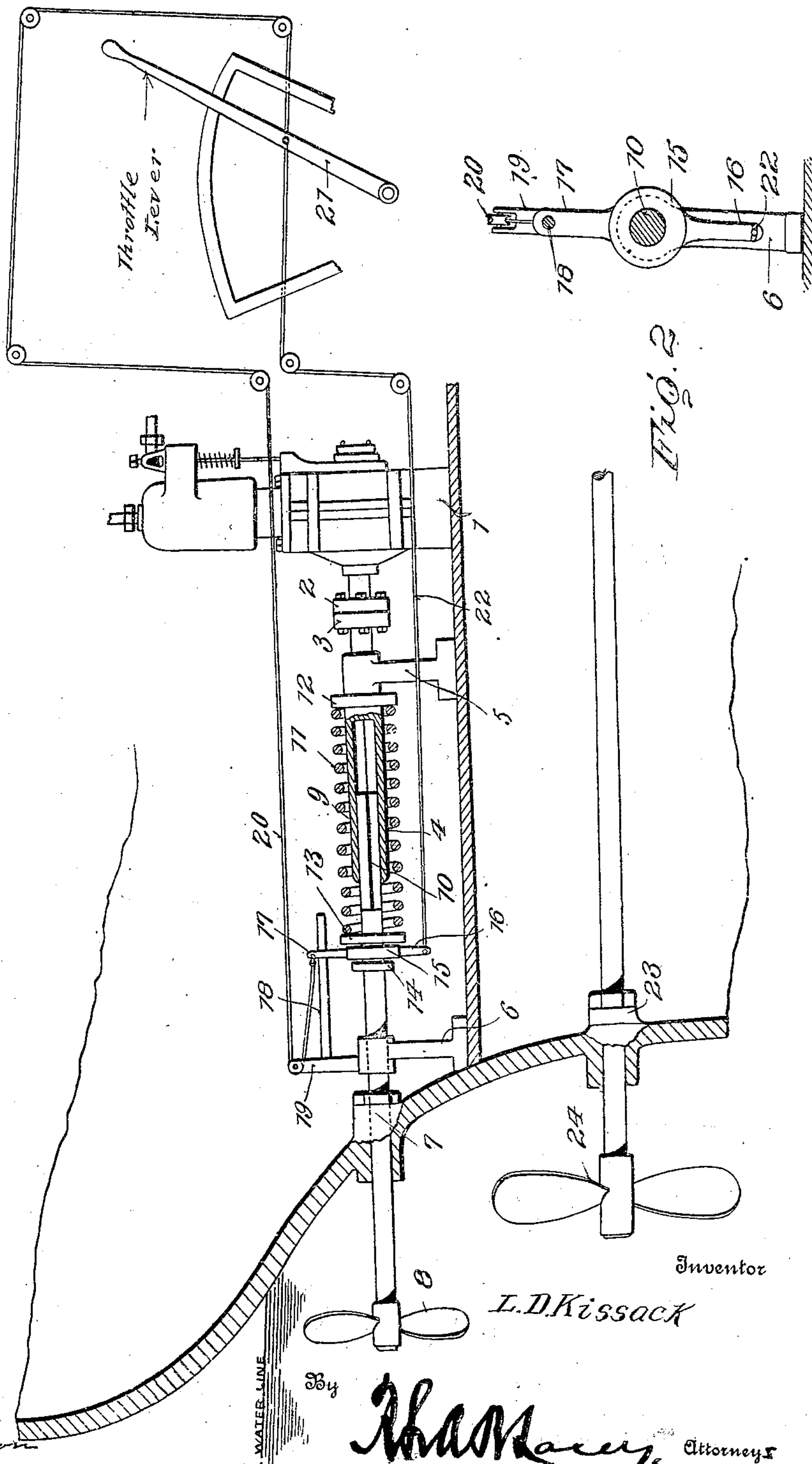
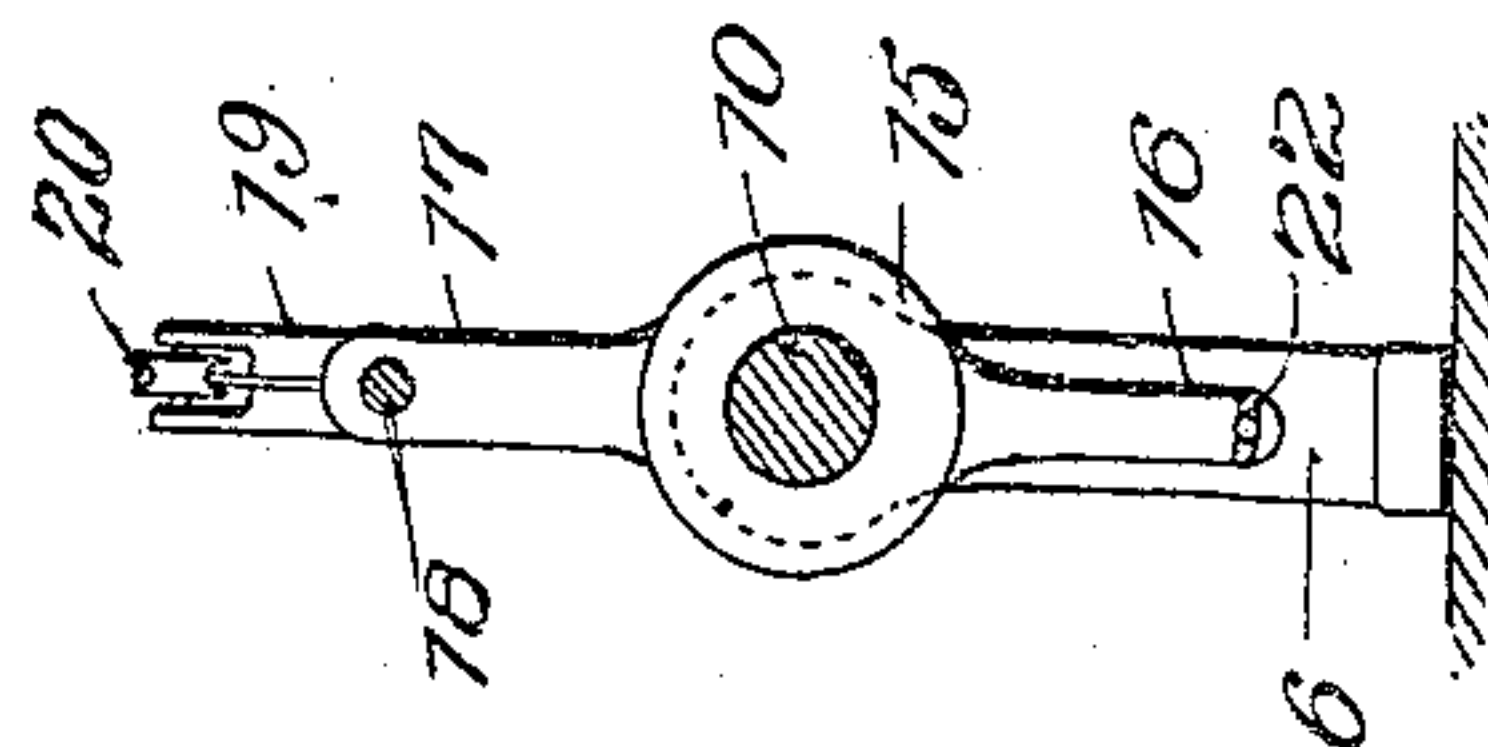


FIG. 2.



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UNITED STATES PATENT OFFICE.

LEWIN D. KISSACK, OF CLOVERDALE, CALIFORNIA.

MARINE-ENGINE GOVERNOR.

No. 921,714.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed May 19, 1908. Serial No. 433,666.

To all whom it may concern:

Be it known that I, LEWIN D. KISSACK, citizen of the United States, residing at Cloverdale, in the county of Sonoma and State of California, have invented certain new and useful Improvements in Marine-Engine Governors, of which the following is a specification.

This invention comprehends certain new and useful improvements in governors for marine engines, and relates particularly to improved means for preventing the propeller shaft or shafts from racing due to the lifting of the propellers out of the water in heavy seas, as the vessel pitches or rolls.

The invention has for its object a simple, durable and efficient construction of apparatus which will sensitively govern the throttle of the engine, and automatically move the throttle to the closed position when the propeller shaft or shafts are raised high enough to lift the propellers out of the water.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which:

Figure 1 is a side elevation of my improved mechanism, parts being shown in section; and Fig. 2 is a detail sectional view, the section being taken through the governor shaft.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates an internal combustion engine or motor of any character supported in any suitable portion of the hull of the vessel and designed to operate independently of the main engine or motor of the ship. In the present instance I have illustrated the independent motor 1 as a gas engine the drive shaft of which is provided with a flanged coupling 2 arranged to be secured to a corresponding coupling 3 on the forward end of the governor shaft 4. The shaft 4 is journaled to run in bearings formed in standards 5 and 6, and said shaft extends aft through a stuffing box 7 in the stern of the hull and carries at its rear end a screw propeller 8 as clearly illustrated in the drawings.

The governor shaft 4 is constructed in longitudinally extensible sections 9 and 10 which are connected together so as to have a relative longitudinal movement while they are compelled to turn together. This may

be manifestly effected in various ways as by a feather or spline connection or, as in the present instance, by having the forward section 9 formed with a non-circular bore in which the corresponding forward end of the rear section 10 fits. The two telescopic sections of the governor shaft are encircled at their adjoining ends by a cylindrical spring 11 which has an expansive tension and which bears at its ends against ball bearing collars 12 and 13 as shown. The rear section 10 is formed with a shoulder 14 designed to limit its longitudinal movement rearwardly as it is forced out by the spring 11 and such section 10 of the governor shaft carries an actuating collar 15 which is formed with downwardly and upwardly projecting arms designated 16 and 17 respectively. The upper arm 17 is formed with an aperture by which it is slipped over a longitudinally extending post 18 which projects forwardly from an upwardly extending support 19 mounted upon the rear standard 6, so as to prevent the arms from turning as they move longitudinally with the rear section of the shaft. An actuating cord or cable (by which latter term is to be included any flexible connection) is attached to one end of the arm 17 and extends rearwardly and around a pulley carried in the upper end of the support 19 and thence extends forwardly and is so connected to the throttle lever 21 of the main engine (not shown) that a forward movement of the actuating collar 15 and arm 17 will move the throttle lever 21 in a direction to open the throttle and start the main engine of the vessel, or increase the speed thereof. Another cable, designated 22, is also attached to the throttle lever 21, and passes rearwardly and is connected at its rear end to the downwardly projecting arm 16 of the actuating collar 15 in such manner that the rearward movement of said bar will swing the throttle lever toward the closed position.

23 designates the main propeller shaft and 24 the screw propeller carried thereby.

In the practical operation of my improved governor for marine engines, it is to be understood that the governor shaft with its propeller 8 is so disposed with relation to the main propeller shaft or shafts and their screws, as to be submerged in the normal or substantially normal position of the vessel's hull. Hence the running of the motor 1 will effect the rotation of the governor shaft 4 and the working of its screw propeller 8 against the

load that is induced by the water so that the rear section 10 of the shaft will work forwardly relative to the forward section, the expansive spring 11 will be compressed and the actuating collar 15 that is carried by the rear section 10 of the shaft will move forward so as to pull upon the cable 20 and move the throttle lever 21 toward the open position where it will be maintained so far as this apparatus is concerned during the normal running of the vessel. However, if the vessel pitches to such an extent as to raise the screw 8 out of the water, which will manifestly occur before the main screw 24 emerges, it is noted that the screw 8 will be relieved of its load and the spring 11 will be permitted to act to move the rear section of the governor shaft rearwardly so as to pull upon the cable 22 and swing the throttle lever 21 toward the closed position, to slow down or stop the main engine.

It is to be understood that the connection between the actuating collar 15 and its arms and the throttle or direct governing part of the main engine may be made in various ways within the scope of my invention. For instance any of the ways described and shown in my United States Patent No. 881,697 dated March 10, 1908, may be employed or other ways that will readily occur to those skilled in the art to which this invention appertains.

Having thus described the invention, what is claimed as new is:

35 1. The combination with a marine vessel, its propeller shaft, and engine throttle operating means, of a governor shaft, means in-

dependent of the main engine for actuating said governor shaft, and a connection between said shaft and the throttle operating means arranged to move the operating means toward the closed position upon the emerging of the rear end of the propeller shaft from the water.

2. In a marine vessel, the combination with the main propeller shaft, the propeller carried thereby and the engine throttle operating means, of a sectional governor shaft arranged for longitudinal extension, a propeller carried by the rear section of said shaft and arranged to exert a forward thrust on said section, a spring arranged to work said section rearwardly, means for rotating said last named shaft, a collar mounted on and carried by the rear section of said shaft and provided with upwardly extending arms, one of said arms being provided with an aperture extending therethrough, a longitudinally extending rod passing through said aperture and serving to guide the collar longitudinally as the rear section of the shaft rotates and moves longitudinally, a support for said rod, and cables connecting said arms and the throttle operating means and arranged to move the same in one direction or the reverse upon the longitudinal movement of said collar.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIN D. KISSACK. [L. S.]

Witnesses:

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