Feb. 3, 1953 E. C. KIEKHAEFER 2,627,181

OUTBOARD MOTOR SPEEDOMETER

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Fig. 1

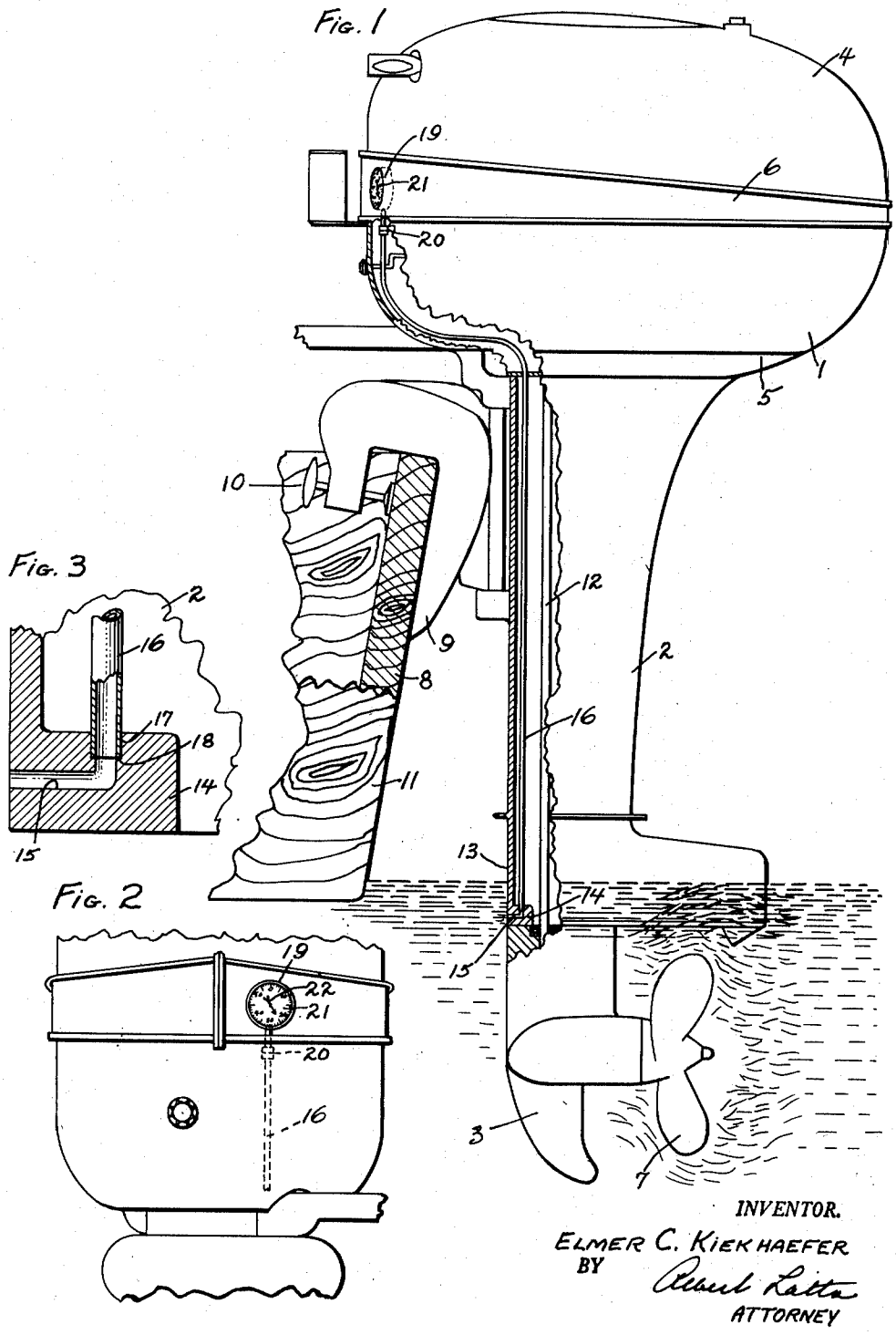


Fig. 3

Fig. 2

INVENTOR.
ELMER C. KIEKHAEFER
BY
ATTORNEY

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OUTBOARD MOTOR SPEEDOMETER

Elmer C. Kiekhaefer, Cedarburg, Wis.

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2 Claims. (Cl. 73—182)

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This invention relates to outboard motors and has as its general object the provision of a speedometer arrangement for an outboard motor.

A specific object of the invention is to provide a speedometer assembly for an outboard motor in which water pressure is utilized to obtain a speedometer reading.

Another object of the invention is to provide a water intake which is remote from the propeller so that the tubulence in the water created by the propeller does not affect the speedometer reading.

Other objects and advantages will become apparent upon reading the following specification and upon examination of the drawings in which:

Fig. 1 is a side elevation of an outboard motor employing the invention in one form;

Fig. 2 is a fragmentary view of the front of the outboard motor; and

Fig. 3 is an enlarged detail view showing the water inlet arrangement.

In the preferred embodiment of my invention, I have shown an outboard motor comprising generally a power head 1, a drive shaft housing 2 and a lower end unit 3.

The power head 1 consists of an internal combustion engine housed in an upper casing 4 and a lower casing 5. The parting line of the casings may be covered by a protector rim 6 which preferably embraces the entire power head.

The drive shaft housing 2 is preferably hollow so as to accommodate a drive shaft 12 and to serve as an exhaust casing. The propeller 7 is mounted on a propeller shaft (not shown) which is driven by the drive shaft 12. The construction of the drive shaft, propeller shaft and drive shaft housing 2 may be of the type disclosed in my co-pending application, Serial No. 772,344 filed September 5, 1947, now Patent No. 2,549,479 issued April 17, 1951, and also Patent No. 2,442,728.

The entire outboard motor assembly is secured pivotally on a vertical axis for steering of the boat, and as shown is secured to the transom 8 of a boat 11 by means of a clamp bracket 9 and clamp screws 10. The lower end unit 3 and a portion of the drive shaft housing 2 are normally submerged in the water at approximately the depth indicated in Fig. 1 and the longitudinal front edge 13 of the drive shaft housing and the lower end unit is preferably somewhat knife-like so as to cut through the water with a minimum of effort and so as to cause a minimum of disturbance to the water.

At the base of the drive shaft housing, where

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the lower end unit 3 is attached thereto, I have provided a boss 14 which may be integral with the drive shaft housing and which is preferably aligned with the longitudinal front edge 13 of the drive shaft housing 2.

A passage 15, which may be a drilled hole or may be cast in boss 14 by means of cores, opens into the water at the front edge 13 of the drive shaft housing. A water conducting tube 16 may be pressed into the upper end 17 of passage 15. The passage 15 may be enlarged in diameter at 17 to accommodate the outside diameter of tube 16 so that the inside diameter of the tube 16 will be approximately the same as the diameter of the lower portion of passage 15 and so as to provide a "bottoming" shoulder 18 for positioning the tube within passage 15, thereby avoiding the possibility of inserting the tube too far into the passage 15 when assembling same.

The tube 16 thus extends up through the interior of drive shaft housing 2 and is secured to a pressure gage 19 by suitable coupling means 20. The pressure gage 19 may be mounted in the protector rim 6 at the front end of the power head 1 where it is always visible to the operator from where he is sitting in the boat 11. The dial 21 of the gage is calibrated to give a "miles per hour" reading.

Thus when the boat is traveling across the water at a speed of 25 miles per hour, the pressure of the water in passage 15, tube 16 and gage 19 is such as to cause the gage indicator hand 22 to point to "25" on the dial 21, thus recording the speed at which the boat is traveling.

It will be noted that the water inlet passage 15 is located remote from the propeller 7 consequently the water entering passage 15 is comparatively undisturbed thereby affording an accurate reading from the gage 19, it being apparent that the water in the vicinity of the propeller and behind the propeller is greatly disturbed due to the action of the propeller rotating in the water.

While I have shown one form of my invention, I do not wish to be limited to this disclosure as the scope of my invention may include other constructions directed toward the same objective. What I claim is:

1. An outboard motor having a propeller and comprising a power unit, a dirigible underneath structure having a submersible portion adapted to carry the propeller, a speed indicating gage adapted to be actuated by water pressure and carried by said power unit and located above water level, pressure transmission means having

a water impact orifice formed within the forward portion of said underneath structure beneath water level and extending interiorly of the underneath structure communicating with the speed indicating gage.

2. An outboard motor for boats and the like comprising a power unit, a hollow drive shaft housing secured thereto, a portion of said housing being submersible, said drive shaft housing being adapted to be dirigibly secured to the boat for steering the latter and including a water impact orifice formed in the front end of the housing beneath water level, a speed indicating gage adapted to be actuated by fluid pressure and

carried by said power unit, a fluid conducting tube having an open end registering with the orifice in the housing and extending interiorly of the housing to the gage.

ELMER C. KIEKHAEFER.

REFERENCES CITED

The following references are of record in the file of this patent:

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