

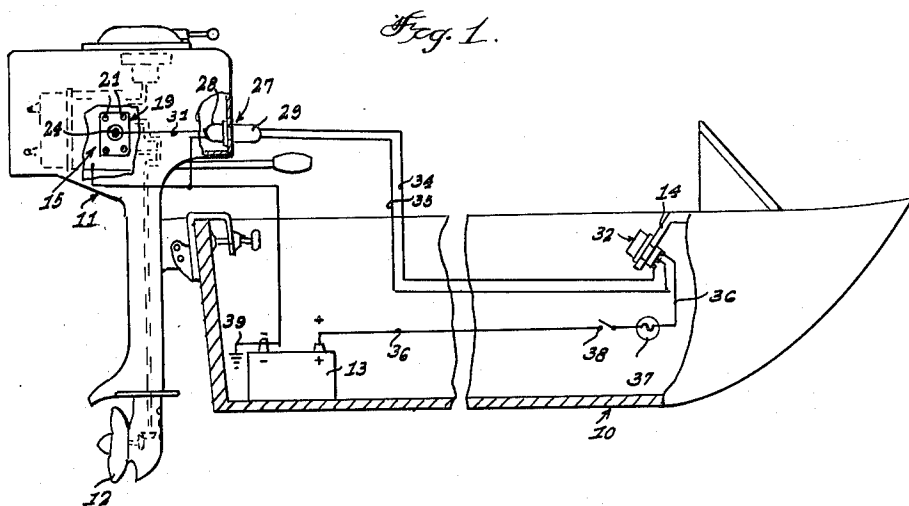
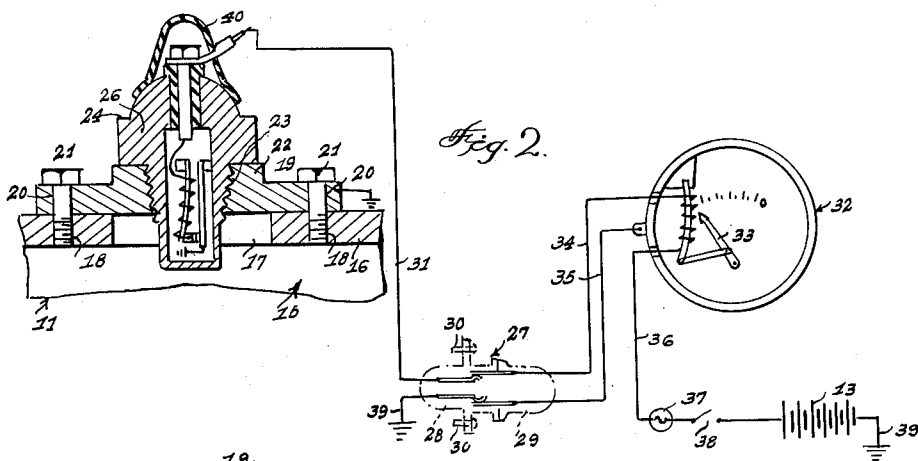
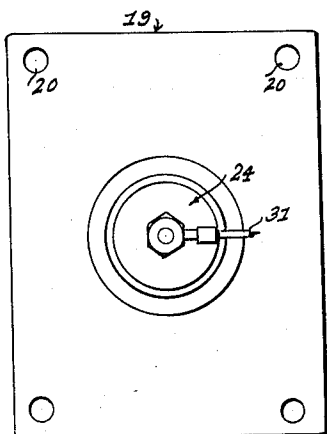
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WATER TEMPERATURE INDICATOR

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WATER TEMPERATURE INDICATOR

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1 Claim. (Cl. 73-347)

This invention relates to a water temperature indicator, and more particularly to a device for indicating the temperature of cooling water in an outboard engine or motor.

The object of the invention is to provide a temperature indicating mechanism which is adapted to be used on a boat so that a person can readily observe or ascertain the temperature of the cooling fluid or water which is in the outboard engine or motor.

A still further object of the invention is to provide an assembly for use with a boat wherein a means is provided for indicating on a gauge located on the dash of the boat, the temperature of the cooling water in the outboard engine so that the operator of the boat can readily observe or determine the temperature of the cooling water so that damage to the engine from overheating can be prevented.

A further object of the invention is to provide a water temperature indicator which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is an elevational view showing the water temperature indicator of the present invention connected to a boat and engine.

Figure 2 is a view illustrating schematically the wiring diagram for the present invention.

Figure 3 is an elevational view illustrating the adapter and thermal unit.

Referring in detail to the drawings, the numeral 10 indicates a portion of a conventional boat which has an outboard motor 11 connected thereto, as for example as shown in Figure 1, and the motor 11 is provided with the usual propeller 12. There is further provided in the boat 10 a source of electrical energy such as the battery 13, and the boat 10 is further provided with the dash 14.

The motor 11 includes a water cooling compartment or jacket which is indicated generally by the numeral 15, and the compartment 15 is provided with an outer wall member 16. The wall member 16 is provided with an opening 17, and there is provided a plurality of spaced apart threaded holes 18 which are spaced from the opening 17.

The numeral 19 indicates an adapter or plate which is provided with a plurality of apertures 20 therein, and the apertures 20 register with the holes 18. The adapter 19 extends over the opening 17 in the wall member 16. The numeral 21 designates securing elements such as bolts which extend through the apertures 20 and into threaded engagement with the holes 18 for maintaining the adapter 19 connected to the wall member 16. The adapter 19 includes an intermediate enlarged portion 22 which has a tapered threaded bore 23 therein, Figure 2.

The numeral 24 indicates a thermal unit which has a tapered portion 25 that threadedly engages the threaded

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bore 23, and the thermal unit 24 is provided with an enlarged head 26 which abuts the portion 22 of the adapter 19.

There is further provided a plug or coupling which is indicated generally by the numeral 27, and the plug 27 includes a pair of separable sections 28 and 29 which can be pulled apart when desired. The section 28 of the plug 27 may be secured to the outboard motor 11 in any suitable manner, as for example by means of securing elements 30. The numeral 31 indicates a first wire which connects the thermal unit 24 to the section 28 of the plug 27. The numeral 32 indicates a temperature indicating gauge which is mounted on the dash 14 of the boat, and the gauge 32 is provided with a movable pointer 33 which is adapted to coact with suitable indicia or scale markings to indicate the temperature of the water in the compartment 15.

Wires 34 and 35 connect the section 29 of the plug 27 to the gauge 32, as for example as shown in Figure 2. A wire 36 is also connected to the gauge 32, and the wire 36 has a fuse 37 therein, there being a switch 38 provided as shown in the drawings so that the assembly can be turned on or off as desired. The numeral 39 indicates a ground wire which is arranged as shown in Figure 2 for example.

From the foregoing, it is apparent that there has been provided an indicating mechanism which is especially suitable for use in indicating the temperature of the water in the outboard motor 11. According to the present invention, the adapter 19 is connected to the wall 16 of the motor 11 by means of the bolts 21, and these bolts 21 extend through the apertures 20 and into threaded engagement with the holes 18 so that the adapter 19 will be retained in its proper position over the opening 17. The thermal unit 24 has its portion 25 arranged in threaded engagement with the bore 23, and the wire 31 leads from the thermal unit 24 to the section 28 of the plug 27. The section 28 is adapted to be permanently fastened to the motor 11 in any suitable manner, as for example by means of the securing elements 30. The section 29 is detachably connected to the section 28, so that when the outboard motor is to be removed, the sections 29 and 28 can be readily separated so that wires such as the wires 34 and 35 will remain in the boat, while the motor 11 with the plug section 28 can be readily removed for any desired purpose.

When the parts are in the assembled position shown in Figures 1 and 2, it will be seen that an electrical circuit is provided between the battery 13 in the boat 10, and the gauge 32 on the dash 14, and the thermal unit 24. Thus, it will be seen that when the switch 38 is closed, the temperature of the water in the jacket or compartment 15 will be transmitted through the thermal unit 24, then through the wiring or circuitry so that the movable pointer 33 will be actuated and this pointer 33 is adapted to coact with suitable indicia or scale markings on the gauge 32. Thus, with the gauge 32 mounted convenient to the operator of the boat, it will be seen that the position of the pointer or hand 33 will provide an accurate indication of the temperature of the water in the compartment 15. Thus, in the event of overheating or the like of the motor or engine 11, the operator will be immediately advised of the situation so that the necessary corrective steps can be taken in order to prevent damage to the expensive pieces of equipment such as the motor 11.

The parts can be made of any suitable material and in different shapes or sizes.

According to the present invention, it will be seen that there has been provided an accessory for use with a boat and engine, and the thermal unit is of the type wherein the rise and fall of the temperature of the wa-

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ter operates a rheostat within the thermal unit so that the electric current supplied by the battery in the outboard circuit will be metered, and this in turn will cause the metered current to be recorded on the gauge unit 32 on the dash 14, so that the temperature can be recorded or shown in degrees. If desired, the thermal unit and recorder and associated parts may be sold as a kit so that a person can install the temperature indicator in his boat. In other words, the water temperature indicator is adapted to be sold on the market as a packaged accessory. As shown in Figure 2, a suitable plastic cover or the like 40 may be arranged over the outer portion of the thermal unit 24, and such a cover 40 will aid in preventing splashing water or the like from interfering with the normal functioning of the circuit. The plug 27 may be fastened to the engine pan, and with the parts arranged as shown in the drawings, the temperature of the recirculating engine water will be recorded on the gauge 32. The temperature indicator can be used for all types of electric outboard engines including those having thermostatically controlled liquid cooling systems. The adapter can be used to replace the thermostat housing, and the thermal unit can be screwed into the adapter and then the wiring is attached as shown in the drawings.

Thus, it will be seen that there has been provided a highly practical temperature indicator. Heretofore, engines have operated at whatever temperature the water happened to be at that the engines were operating in plus the rise in temperature caused by the internal combustion of the engine. Presently, larger engines and larger boats have come into vogue, and several types of engines now have a recirculating, thermostatically controlled cooling system built into the engine. With the present invention, expensive engines can be given greater care or operated with greater safety, since the operator of the boat will immediately know when the engine is operating in an over-heated condition. The entire assembly is simple to install, trouble-free in operation, and can be sold at a low price.

The gauge 32 may be encased in a suitable marine casing and can be secured to the dash of the outboard motor boat by means of suitable securing elements. The thermal unit or thermometer fastens to the outboard engine 11 and when coupled to the dash gauge 32, will actuate the dash gauge to the temperature of the water passing through the engine. The plug 27 permits easy disconnection from the engine, and the fuse 37 acts as a safety.

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It will be seen that the wiring is arranged so that a wire 36 is fastened to the positive post of the battery 13 and through a switch 38 to a fuse 37, and from the fuse 37 to a post on the back of the temperature gauge 32. Another post of the gauge has a wire fastened thereto and this wire is connected through the plug 27 to the thermal unit 24 through the wire 31. A wire 39 is fastened to the negative post of the battery and grounded to the engine. Furthermore, a wire is fastened to another post on the gauge 32 and connected to the plug 27 and grounded to the engine.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

I claim:

In a boat including a dash, a battery in said boat, an outboard motor connected to the boat and including a water cooling compartment having an outer wall member, said wall member being provided with an opening, there being a plurality of spaced apart threaded holes in said wall member spaced from said opening, an adapter arranged contiguous to the outer surface of said wall member and extending over said opening, there being a plurality of apertures in said adapter, securing elements extending through said apertures and threadedly engaging said holes, said adapter including an intermediate enlarged portion which has a tapered threaded bore therein, a thermal unit including a tapered portion threadedly engaging said bore, said thermal unit including an outer enlarged head, a first wire connected to said thermal unit, a plug including first and second separable sections, a temperature gauge mounted on said dash, second and third wires connecting said gauge to said second plug section, said first wire being connected to said first plug section, wires connecting said battery to said gauge and to said first plug section.

References Cited in the file of this patent

UNITED STATES PATENTS

1,862,994	Zubaty et al. -----	June 14, 1932
1,874,263	Fahrney -----	Aug. 30, 1932
1,917,457	Otto -----	July 11, 1933
2,558,736	Crews -----	July 3, 1951
2,560,455	Knight -----	July 10, 1951
2,959,699	Scofield et al. -----	Nov. 4, 1958