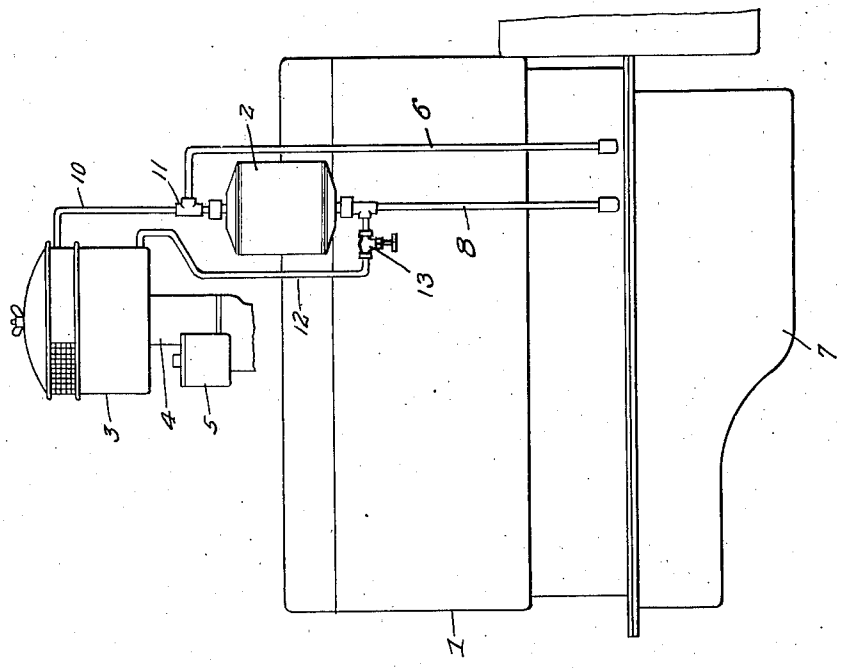
July 11, 1944. C. E. HENKELMAN 2,353,337

TEMPERATURE REGULATOR FOR INTERNAL COMBUSTION ENGINES

Filed Oct. 29, 1942

Fig. 1.



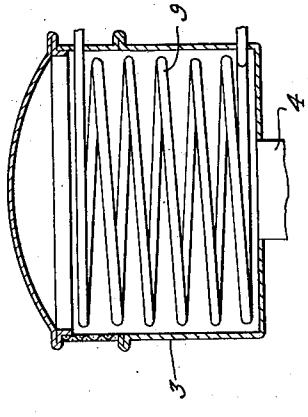


Fig. 2.

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TEMPERATURE REGULATOR FOR INTERNAL-COMBUSTION ENGINES

Charles E. Henkelman, Atlantic City, N. J.

Application October 29, 1942, Serial No. 463,836

1 Claim. (Cl. 123—122)

My invention relates to improvements in temperature regulating devices for internal combustion engines, the principal object in view being to provide a simple form of inexpensive device which may be readily embodied in any internal combustion engine equipped with an oil pump and a carburetor air cleaner to reduce the temperature of the crank case oil and preheat the air entering the carburetor.

To the accomplishment of the above, and subordinate objects presently appearing, a preferred embodiment of my invention has been illustrated in the accompanying drawing, set forth in detail in the succeeding description, and defined in the claims appended hereto.

In said drawing:

Figure 1 is a view in side elevation illustrating my improved temperature regulating device applied, and

Figure 2 is a view in vertical section taken through the carburetor air cleaner and illustrating the coil therein.

Referring to the drawing by numerals, my improvements have been shown therein, by way of exemplification, as embodied in an internal combustion engine designated generally 1, and equipped with the usual oil filter 2, and cylindrical casing-type air cleaner 3 superposed on the air intake 4 of the carburetor 5. The numeral 6 designates the oil feed line from the usual internal pump, not shown, in the crank case 7 and leading to the top of the filter 2, and 8 the oil return line from the bottom of said filter to said pump.

According to my invention, a helical pipe coil 9 is provided to seat in the air cleaner 3 and which, in this instance, is provided with an upper end extension pipe 10 extended out of one side of said cleaner and coupled in the oil feed line 6 above the filter tube by a coupling 11. The lower end of the coil 9 is similarly extended out of one side of the cleaner 3 in the form of a pipe 12 and which is tapped into the oil return line 8 below the filter 2 to by-pass said filter.

A control cock 13 is provided in the line 12 whereby the operator may control the volume of oil passing through the coil 9 to be cooled in accordance with the requirements of different types of engines.

The operation and advantages of the invention will be readily understood. When the engine 1 is operating, oil is pumped into the coil 9 by way of the line 2 and pipe 10 to circulate through the coil and return to the pump by way of the pipe 12 and line 8. As air is drawn through the cleaner 3 by the suction of the engine 1, such air is preheated by the warm oil in the coil 9. Conversely, such air tends to reduce the temperature of the oil returned to the pump from the coil, thereby reducing the temperature of the oil in the crank case 7.

As will now be seen, by virtue of my invention, the crank case oil may be cooled to any desired temperature within certain limits. The same grade of oil may be used in any temperature and at any season of the year. When the oil filter 2 is used, the oil will last much longer than in ordinary systems. The heat in all lubricated parts of the engine is reduced and the life of the parts prolonged. By preheating the air entering the carburetor, a better mixture and better mileage is obtained. The viscosity of the oil is maintained substantially uniform so that a better seal is obtained between pistons and cylinder walls, oil dilution is reduced to a minimum and frequent oil changing obviated.

Obviously, if the engine is not equipped with an oil filter, the lines 10, 12 may be directly connected to the usual outlet and inlet provided by the manufacturer in the engine for connection of such a filter.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention without further explanation.

Manifestly, the invention is susceptible of various modifications without departing from the inventive concept and within the scope of the appended claim.

What I claim is:

In an internal combustion engine of the type embodying an internal oil pump, an oil filter, a carburetor air cleaner, and intake and discharge pipes extending between said filter and the output and intake sides of said pump, respectively, an air preheating coil in said cleaner, and a pair of inlet and outlet pipes extending from opposite ends of said coil to said intake and discharge pipes of said filter and bypassing all around the filter.

CHARLES E. HENKELMAN.