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F. B. NIMS ET AL

WATER PUMP FOR MOTOR VEHICLE ENGINES

Filed Feb. 10, 1926

Fig. 1

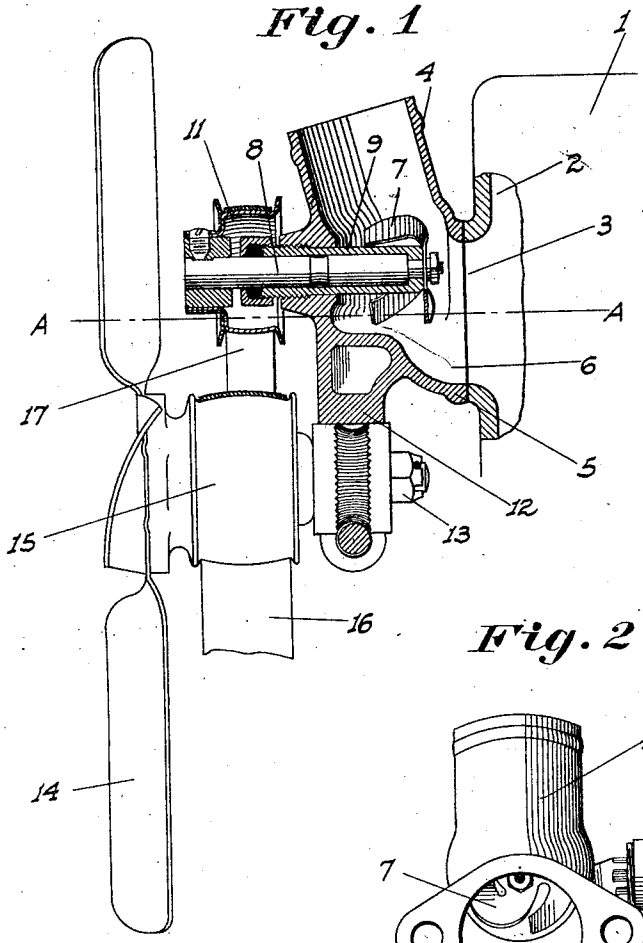
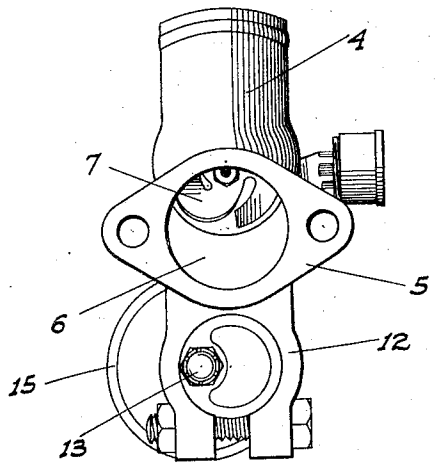


Fig. 2



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UNITED STATES PATENT OFFICE.

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WATER PUMP FOR MOTOR-VEHICLE ENGINES.

Application filed February 10, 1926. Serial No. 87,221.

This invention relates to improvements in water pumps used to circulate the water in the engines of motor vehicles and is particularly directed to that popular type of vehicle called the Ford.

Motor vehicle engines of the type used on the Ford vehicle have what is called the thermo-siphon type of circulating system for circulating the cooling water through the water jacket of the engine and the radiator. This is more or less unsatisfactory when the engine is pulling hard under speed or load or in very hot weather. Therefore a pump to accelerate the circulation is very desirable but it is necessary that such a pump shall not interfere with the thermo-siphon circulation in the event anything happens to the pump.

The object of our invention is to provide a circulating pump that can be fitted to the top outlet of the water jacket of the engine to take the place of the outlet elbow now commonly used at that point. In doing this it is necessary that provision be made to allow the free thermo-siphon action if the pump should go wrong, and it is also necessary to accommodate the position of the driving pulley to the drive of the fan of the vehicle so that power from the crank shaft of the engine can be used to drive both the fan and pump without material change in the engine equipment.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects we accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a sectional view of the pump, fan and engine assembly showing the application of our pump in connection therewith.

Fig. 2 is an end view of the pump looking into the pump chamber.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 designates the cylinder block of the engine having the usual water jacket 2 with the upper outlet leading to the radiator. It is at this outlet 3 that we install our improved pump and fan assembly.

Our invention embodies an elbow outlet or pump casing 4 having a flange 5 to fasten same to the cylinder head with a central opening 6 to lead from the water jacket 2 into the casing 4 and thence to the radiator.

At a point above the center line A of the opening 6, and positioned thus so as not to interfere with the direct thermo-siphon action of the engine, is the pump impeller 7. This impeller is mounted on a shaft 8 turnable in a bearing sleeve 9 with a ground water sealing joint 10, all as constructed and for the purposes set forth in our Patent No. 1,459,160.

On the outer end of the shaft 8 is the pump driving pulley 11.

Cast integral with the casing 4 is a depending bracket 12 within which is mounted an eccentrically adjustable shaft 13 on which is mounted the fan 14 and its drive pulley 15 alined with the pulley 11.

The belt 16 from the crank shaft of the engine drives the fan pulley and another belt 17 driven by frictional contact therewith drives the pulley 11 and the pump.

From the foregoing description it will be readily seen that we have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described our invention what we claim as new and useful and desire to secure by Letters Patent is:

A pump comprising a casing having an inlet and an outlet at substantially right angles to each other, and an impeller mounted for rotation within said casing, the axis of rotation of the impeller being parallel to but spaced above the center line of the inlet into said casing.

In testimony whereof we affix our signatures.

FRANK B. NIMS.
VOIGT J. NIMS.