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(54) **Oil sump for a diesel engine, diesel engine provided with such an oil sump and use of such a diesel engine**

(57) Oil sump for a diesel engine, provided with an inlet opening, a dipstick opening, an outlet opening, an oil filter and a fuel filter, wherein in a situation of the oil sump combined with the diesel engine for normal use, the inlet opening, the dipstick opening, the outlet opening, the oil filter and the fuel filter are all provided on the distribution side of the diesel engine.

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Description

[0001] The invention relates to an oil sump which is provided with an inlet opening, a dipstick opening and an outlet opening, intended for a diesel engine, in particular a diesel engine for driving a liquid pump, for instance for a plunger pump, a piston pump or a centrifugal pump for pumping water.

[0002] A water pump driven by a diesel engine is for instance applied for pumping up groundwater at locations where a connection to the public water main is unavailable, or at building sites for the purpose of keeping this building site dry. In order to prevent unauthorized persons gaining access to the combination of diesel engine and water pump, to damp the sound generated by this combination or to protect the environment, the combination of diesel engine and water pump is usually accommodated in a casing.

[0003] In a combination of a known diesel engine and a water pump of the most usual types the operating side of the diesel engine, i.e. the side where the inlet opening, the dipstick opening and the outlet opening of the oil sump as well as an oil filter and a fuel filter are accessible, is directed toward the driven water pump.

[0004] When a combination of a known diesel engine and such a water pump is accommodated in a casing, the problem occurs that the diesel engine becomes difficult to access for maintenance and oil change in the oil sump, since the casing impedes rapid uncoupling of diesel engine and water pump that is necessary for the maintenance. This problem is further exacerbated by the fact that an above stated combination must usually be in continuous operation, as a result of which the intervals between servicing are relatively short and maintenance must consequently be carried out relatively frequently.

[0005] It is an object of the invention to be able to provide a diesel engine which is suitable for driving a liquid pump, in particular a water pump, and can herein be accommodated in a casing in combination with this liquid pump, wherein the diesel engine is readily accessible for maintenance and oil changes.

[0006] It is an additional object to increase the intervals between the required servicing.

[0007] These objectives are achieved, and other advantages gained, with an oil sump of the type stated in the preamble for a diesel engine wherein, in a situation of the oil sump combined with the diesel engine for normal use, according to the invention the inlet opening, the dipstick opening and the outlet opening are all provided on the distribution side of the diesel engine.

[0008] In an oil sump according to the invention with a diesel engine which is coupled in usual manner to a liquid pump, the access to the distribution side, and therefore the access to the inlet opening, the dipstick opening and the outlet opening, is not obstructed by this liquid pump. As a result it is not necessary to uncouple the diesel engine from the liquid pump in order to change the oil.

[0009] An embodiment of an oil sump according to the invention is provided with an oil filter which, in a situation of the oil sump combined for normal use with the diesel engine, is provided on the distribution side of the diesel engine.

[0010] In such an oil sump it is possible to replace the oil filter in simple manner without the necessity to uncouple the diesel engine from the liquid pump for this purpose.

[0011] In yet another embodiment the oil sump is provided with a fuel filter which, in a situation of the oil sump combined for normal use with the diesel engine, is provided on the distribution side of the diesel engine.

[0012] In such an oil sump it is possible to replace the fuel filter in simple manner without the necessity to uncouple the diesel engine from the liquid pump for this purpose.

[0013] The oil sump is preferably provided on its underside with mounting means for fixing the oil sump to a surface.

[0014] The advantages of an oil sump according to the invention become manifest in a diesel engine which is provided with the oil sump and thus forms a combination therewith having a modular structure. A modular structure makes it possible for instance to mount an oil sump which has a height, and thereby volume, which can in principle be chosen independently of the dimensions of the diesel engine. An oil sump according to the invention with a volume greater than that of a prior art oil sump provides a longer maintenance interval since the oil needs to be changed less frequently, which results in a considerable saving of time and cost.

[0015] The advantages of an oil sump according to the invention also become particularly manifest when the diesel engine provided with this oil sump is accommodated in the casing of a liquid pump to be driven by this diesel engine, which casing is provided with a closable opening, wherein the distribution side of the diesel engine is directed toward the closable opening.

[0016] The invention further relates to the use of a diesel engine, provided with the above described oil sump, for the purpose of driving a liquid pump.

[0017] The invention will be elucidated hereinbelow on the basis of an exemplary embodiment with reference to the drawing.

[0018] In the drawing, fig. 1 shows an exploded view of a diesel engine 1 with an oil sump 2. Visible on the front side or distribution side of diesel engine 1 (facing to the left in the figure) are an electric starter motor 3 and the positions of crankshaft 4 and a drive shaft 5, for instance for a water pump (not shown), which is placed closely against the side opposite starter motor 3, where an air filter 14 is also present. On the distribution side of diesel engine 1 the oil sump 2 is provided with a filling hole 6, a dipstick opening 7, an outlet plug 8, an oil filter 9 and a fuel filter 10. Using bolts and nuts the oil sump 2 can be fixed through an upper edge 12 to diesel engine 1, which is provided for this purpose with a lower edge 11 corresponding with upper edge 12. The combination

of diesel engine 1 and oil sump 2 thus has a modular structure.

Claims

1. Oil sump (2) for a diesel engine (1), provided with an inlet opening (6), a dipstick opening (7) and an outlet opening (8), **characterized in that** in a situation of the oil sump (2) combined with the diesel engine (1) for normal use, the inlet opening (6), the dipstick opening (7) and the outlet opening (8) are all provided on the distribution side of the diesel engine (1).

2. Oil sump (2) as claimed in claim 1, **characterized in that** it is provided with an oil filter (9) which, in a situation of the oil sump (2) combined for normal use with the diesel engine (1), is provided on the distribution side of the diesel engine (1).

3. Oil sump (2) as claimed in either of the claims 1-2, **characterized in that** it is provided with a fuel filter (10) which, in a situation of the oil sump (2) combined for normal use with the diesel engine (1), is provided on the distribution side of the diesel engine (1).

4. Oil sump (2) as claimed in any of the claims 1-3, **characterized in that** it is provided on its underside with mounting means (13) for fixing the oil sump (2) to a surface.

5. Diesel engine (1) provided with an oil sump (2) as claimed in any of the claims 1-4, **characterized in that** it forms a combination with the oil sump (2) that has a modular structure.

6. Diesel engine (1) provided with an oil sump (2) as claimed in any of the claims 1-4, **characterized in that** it is accommodated in the casing of a liquid pump to be driven by this diesel engine, which casing is provided with a closable opening, wherein the distribution side of the diesel engine is directed toward the closable opening.

7. Use of a diesel engine (1) provided with an oil sump (2) as claimed in any of the claims 1-4 for the purpose of driving a liquid pump.

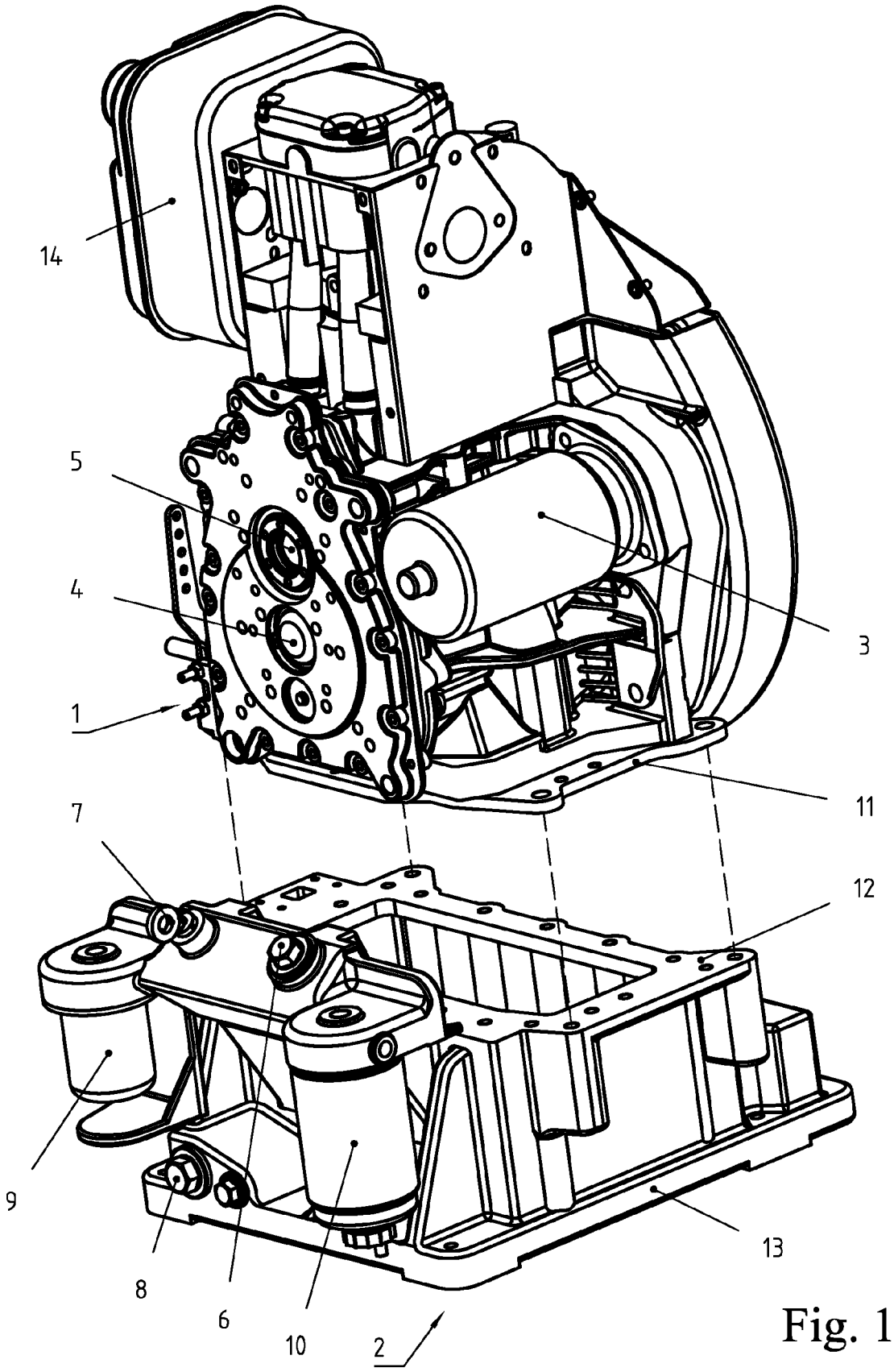

Fig. 1