

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)**

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/TR2017/000037

International filing date (day/month/year)
03.03.2017

Priority date (day/month/year)
02.04.2016

International Patent Classification (IPC) or both national classification and IPC
INV. E02D7/18 B06B1/16

Applicant
OZKAN AYDIN

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0
Fax: +49 89 2399 - 4465


Date of completion of this opinion

see form
PCT/ISA/210

Authorized Officer

Friedrich, Albert

Telephone No. +49 89 2399-0



Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed.
 - a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-20</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-20</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-20</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Independent claim 1

Closest prior art: EP-A1-1 340 857 discloses: a system for running variable motor with transmission oil that is used in vibro hammers and pipe/pile driving machines, that performs transmission lubrication by a closed loop oil system and that enables running the variable motor with the same oil, comprising one variable motor that transfers power by feeding oil, one transmission belonging to the vibro hammer or the pipe driving machine, one oil sump in which the oil fed to the variable motor and the transmission is stored and one oil pump that draws the oil in the oil sump and that transfers the oil to the variable motor and the transmission and that circulates the oil in the system (fig.4-6).

Distinguishing features: from this known system for running variable motor, the subject matter of claim 1 differs in that the control valve (9) comprising at least one oil inlet (91), at least one phase changer A direction (93) and at least one pilot inlet (95), at least one control valve (9), depending on the signal received from the pilot inlet (95), that directs the oil used in transmission (3) lubrication to the variable motor (2) to run the variable motor (2), that directs the oil running the variable motor (2) back to the transmission (3) lubrication and thus that is adapted to provide a closed loop oil circulation between the transmission (3) and the variable motor (2).

Hence, claim 1 is new.

Inventive step: the distinguishing features of claim 1 describes a system for running a variable motor with transmission oil that enables running a hydraulic variable motor with the oil of a transmission lubrication system and that can be used in any kind of vibro hammers and pipe driving machines, thus preventing the oil leaked to the transmission system from damaging the transmission parts when an oil leakage is experienced in the lubrication system and lubricates the transmission through a closed loop lubrication system, thus running the variable motor by the same oil.

The prior art does not disclose the characterizing features of claim 1, therefore there is an inventive step.

The subject-matter of claim 1 satisfy the criterion set forth in Article 33(2), (3) and (4) PCT.

Independent claim 16

The independent claim 16 is directed to a method for running variable motor with transmission oil that is used in vibro hammers and pipe driving machines, that enables performing transmission lubrication by a closed loop oil system and that enables running the variable motor with the same oil, also disclosed in EP-A1-1 340 857.

Distinguishing features: from this known method for running variable motor, the subject matter of claim 16 differs by the method steps of drawing the transmission (3) oil in the oil sump (4) by the oil pump (5) (101), transfer of oil to the transmission (3) and the control valve (9) (102), checking if the variable motor (2) will be run or not by the control valve (9) (103), if the variable motor (2) will not run, directing the oil to the transmission (3) by the control valve (9) (104), if the variable motor (2) will run, opening the phase changer A direction (93), directing the oil to the variable motor (2) and simultaneously continuing lubrication of the transmission (3) (105), when the variable motor (2) stops running, re-directing the oil running the variable motor (2) back to the transmission (3) lubrication (106).

Hence, claim 1 is new.

Inventive step: the distinguishing method steps of claim 16 describes a system for running a variable motor with transmission oil that enables running a hydraulic variable motor with the oil of a transmission lubrication system and that can be used in any kind of vibro hammers and pipe driving machines, thus preventing the oil leaked to the transmission system from damaging the transmission parts when an oil leakage is experienced in the lubrication system and lubricates the transmission through a closed loop lubrication system, thus running the variable motor by the same oil.

This method also enables performing two different lubrication system as a single oil loop in a closed loop conduit.

The prior art does not disclose the characterizing features of claim 16, therefore there is an inventive step.

The subject-matter of claim 16 also satisfy the criterion set forth in Article 33(2), (3) and (4) PCT.

Dependent claims:

The claims 2 to 15 and 17 to 20 are dependent from independent claims 1 and 16 and are therefore new and inventive per se.

The subject-matter of these claims satisfy the criterion set forth in Rule 6.4 PCT.