

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	21.04.2015
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Applicant's or agent's file reference 5606-F714-PC	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/JP2015/051302	International filing date (day/month/year) 20.01.2015	Priority date (day/month/year) 25.02.2014
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International Patent Classification (IPC) or both national classification and IPC
B63B9/00 (2006.01) i, B63B49/00 (2006.01) i

Applicant
FURUNO ELECTRIC CO., LTD.

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 or 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 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/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

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Box No. I Basis of this 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 filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
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 in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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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
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1. Statement			
Novelty (N)	Claims	1-17	YES
	Claims	_____	NO
Inventive step (IS)	Claims	1-17	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	1-17	YES
	Claims	_____	NO

2. Citations and explanations:	
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The invention as in claims 1-17 is not disclosed in any of the documents cited in the ISR and would not be obvious to a person skilled in the art.

In particular, even a person skilled in the art could not easily conceive of the features disclosed in claim 1 of "providing an estimator that estimates and outputs a value corresponding to conditions identified by a combination of the received value of the aforementioned surface current velocity vector and the value of the aforementioned rotational rate as a target velocity vector in which a propeller propulsion velocity vector, which is a velocity vector for the aforementioned ship resulting from the rotation of the aforementioned propeller, and the surface current velocity vector are synthesized; and a propeller propulsion velocity calculation unit that calculates the propeller propulsion velocity vector on the basis of the value output as the target velocity vector and the surface current velocity vector."

Moreover, even a person skilled in the art could not easily conceive of the feature of claim 11 of "providing

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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

an estimator that estimates and outputs a value corresponding to the received value of the aforementioned rotational rate as a propeller propulsion velocity vector, which is a velocity vector for the aforementioned ship resulting from the rotation of the aforementioned propeller.”