

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P17051WO01	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2018/006762	International filing date (<i>day/month/year</i>) 23 February 2018 (23.02.2018)	Priority date (<i>day/month/year</i>) 31 March 2017 (31.03.2017)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant KOKI HOLDINGS CO., LTD.			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report 01 October 2019 (01.10.2019)
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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)	17.04.2018
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Applicant's or agent's file reference P17051W001	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/JP2018/006762	International filing date (day/month/year) 23.02.2018	Priority date (day/month/year) 31.03.2017
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International Patent Classification (IPC) or both national classification and IPC
B25F5/00 (2006.01) i, B23D45/16 (2006.01) i

Applicant
KOKI HOLDINGS 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.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

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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:
 - 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:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No. PCT/JP2018/006762
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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		
1. Statement			
Novelty (N)	Claims	3, 5-7, 9	YES
	Claims	1-2, 4, 8	NO
Inventive step (IS)	Claims		YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO
2. Citations and explanations:			
<p>Document 1: WO 2016/158129 A1 (HITACHI KOKI CO., LTD.) 06 October 2016, paragraphs [0026]-[0045], fig. 1 (Family: none)</p> <p>Document 2: JP 2008-173712 A (HITACHI KOKI CO., LTD.) 31 July 2008, paragraphs [0018]-[0037], fig. 1-3 & US 2008/0315693 A1, paragraphs [0028]-[0047], fig. 1-3</p> <p>Document 3: JP 2017-1149 A (MAX CO., LTD.) 05 January 2017, paragraphs [0057], [0058], [0068], fig. 1, 4, 6 (Family: none)</p> <p>Document 4: JP 2015-13369 A (HITACHI KOKI CO., LTD.) 22 January 2015, paragraphs [0037]-[0045], fig. 14-16 (Family: none)</p> <p>(1) Claims 1-2 and 4-7</p> <p style="padding-left: 40px;">The invention as in claims 1-2 and 4-7 does not involve an inventive step in the light of documents 1 and 2 cited in the ISR.</p> <p style="padding-left: 40px;">Document 1 (see paragraphs [0026]-[0045], fig. 1, etc.) discloses</p> <p style="padding-left: 40px;">an electric tool provided with</p>			

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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

a centrifugal fan 7,

a motor housing 50 that houses a brushless motor 1 and has an air intake vent 52 in the backwall surface, and

a handle housing 60 which houses a control board 8 of a switching circuit 21 etc. and has a drive circuit housing section 62 extending to a position overlapping with the centrifugal fan 7 in the direction orthogonal to the rotational axis of the centrifugal fan 7, and to which an exhaust vent 63 is formed, wherein

as a result of the rotation of the centrifugal fan 7, cooling air is taken in from the air intake vent 52, passes through the motor housing 50 while cooling the motor 1, is introduced by a fan guide 51 to the drive circuit housing 62, passes through the same while cooling the switching elements etc. mounted on the control board 8, and is discharged to the outside from the exhaust vent 63.

The electric tool disclosed in document 1 differs from the present invention in that a second air intake port is not provided.

However, document 2 (see paragraphs [0018]-[0037], fig. 1-3, etc.) indicates that, in a similar electric tool, an air intake vent is provided to a sidewall surface facing the motor in addition to the backwall surface of the motor housing.

Accordingly, a person skilled in the art could easily conceive of applying the technical feature disclosed in document 2 to the electric tool disclosed in document 1 so as to provide an air intake vent to the sidewall surface in addition to the backwall surface of the motor housing.

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

Furthermore, when doing so, a person skilled in the art could easily conceive of providing the air intake vent of the sidewall surface at a position that faces the stator.

(2) Claims 1, 3, and 9

The invention as in claims 1, 3 and 9 does not involve an inventive step in the light of document 3 cited in the ISR.

Document 3 (paragraphs [0018]-[0037], fig. 1-3) discloses an electric tool provided inside a housing 30 with a motor 11, a control board 22, and a fan 20 etc., wherein

the motor housing section 35b of the housing is provided with a first air intake port 51 disposed upstream of the motor 11, and a second air intake port 52 disposed near the fan (see, in particular, fig. 4, 6), i.e. downstream of the first air intake port 51 and upstream of the control board 22, and

as a result of the rotation of the fan 20, the air flowing in from the first air intake port 51 cools the motor 11, the air flowing in from the second air intake port 52 cools the control board 22, and air is discharged from the exhaust port 32 and the blow port 50 of the main body housing 35.

The electric tool disclosed in document 3 is unclear on the point of whether the motor is a brushless motor, but in electric tools, adopting a brushless motor that can be made smaller, is such a well-known technique that an example need not be cited.

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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

(3) Claims 1-2, 4, and 8

The invention as in claims 1-2, 4 and 8 is disclosed in document 4, and thus lacks novelty and does not involve an inventive step.

Document 4 (see paragraphs [0037]-[0045], fig. 14-16, etc.) discloses

a portable electric circular saw provided, inside a housing 2, with a centrifugal fan 7, a brushless motor 1, and a circuit board housing section 65B that houses a circuit board including switching elements Q1-Q6 and extends to a position overlapping with the centrifugal fan 7 in the direction orthogonal to the rotational axis of the centrifugal fan 7, wherein

as a result of the rotation of the centrifugal fan 7, cooling air is introduced from an air intake vent 2b behind the motor 1 to the motor housing section 2a so as to cool the motor 1, and cooling air is introduced from circuit board cooling vents 66, 67 facing the motor to the circuit board housing section 65B so as to cool the circuit board housing section 65B, and the air is discharged from a fan air discharge port 5c.