

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 SFZXF-0010	FOR FURTHER ACTION		See item 4 below
International application No. PCT/CN2016/082344	International filing date (<i>day/month/year</i>) 17 May 2016 (17.05.2016)	Priority date (<i>day/month/year</i>) 06 April 2016 (06.04.2016)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant ZHEJIANG MINGLEI TOOLS INDUSTRIAL 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 checked="" 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 checked="" 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 checked="" 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 checked="" 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 09 October 2018 (09.10.2018)
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From the INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing <i>(day/month/year)</i> 05 January 2017	
Applicant's or agent's file reference SFZXF-0010	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/CN2016/082344	International filing date <i>(day/month/year)</i> 17 May 2016
Priority date <i>(day/month/year)</i> 06 April 2016	
International Patent Classification (IPC) or both national classification and IPC H02K 7/14(2006.01)i; B25F 5/00(2006.01)i; B23B 45/02(2006.01)i	
Applicant ZHEJIANG MINGLEI TOOLS INDUSTRIAL 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 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 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/	Date of completion of this opinion	Authorized officer
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CN2016/082344

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 43*bis*.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. II **Priority**

1. The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:
 - [1] It has been verified that the priority claim of the present application is established.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

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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**

1. Statement

Novelty (N)	Claims	<u>1-8</u>	YES
	Claims	<u>None</u>	NO
Inventive step (IS)	Claims	<u>None</u>	YES
	Claims	<u>1-8</u>	NO
Industrial applicability (IA)	Claims	<u>1-8</u>	YES
	Claims	<u>None</u>	NO

2. Citations and explanations :

[1] The present report cites the following reference documents:

[2] D1: CN 103547415 A;

[3] D2: CN102825585 A;

[4] D3: CN 201956803 U.

[5] (I) Novelty and inventive step

[6] 1. Claim 1 relates to a method for controlling a controllable detachable power device based on a brushless motor. D1 is considered to be the prior art document closest to the subject matter of claim 1, and discloses a method for controlling a controllable detachable power tool based on a brushless motor (see D1, description, paragraphs [0052]-[0092], and fig. 1-6). The power tool comprises a hammer case 23 (i.e., a machine body module) for accommodating a hammer unit 4 and an anvil unit 5, a body section 21 (equivalent to a power module) comprising a brushless motor 3, and a handle section 22 (equivalent to a switch module) comprising a toggle switch 30 and a control unit 7. The hammer case 23 is provided at a forward position within the body section 21 (i.e., the hammer case 23 and the body section 21 are detachably mounted). The control unit 7 for controlling the brushless motor 3 to move comprises a communication connector 81 (equivalent to a communication module). The control method comprises the following steps: the control unit adjusts, according to requirements of the power tool, a running parameter of the brushless motor; starting the control unit to establish a communication connection between the communication connector 81 in the control unit and an external device 82; and after establishing the communication connection, controlling the power tool by means of the external device. Claim 1 differs from D1: in that (1) a power module comprises a brushless motor and a control module; (2) and by using a switch module as a fixed end and mounting the power module to the switch module. Therefore, claim 1 and dependent claims 2-8 are novel in the sense of PCT Article 33(2).

[7] However, distinguishing technical feature (1) is disclosed by D2 (see D2, description, paragraphs [0008] and [0009], and fig. 1); both a brushless motor 3 using as a power module and a control part 6 for controlling the brushless motor to move are arranged in a motor housing 21. Distinguishing technical feature (2) is a conventional substitution of the feature disclosed in D1 "the handle section is integrally configured with the body section". Hence, it would be obvious to a person skilled in the art to arrive at the technical solution of claim 1 by combining D1, D2, and common general knowledge in the art. Therefore, claim 1 lacks an inventive step in the sense of PCT Article 33(3).

[8] 2. Some of the parallel additional technical features of claim 2 "a communication module can be a Bluetooth communication module and a WiFi communication module" are disclosed by D3 (see D3, description, paragraphs [0022] and [0023]). However, the remaining parallel technical features are equivalent constitutions of the communication mode disclosed in D3. The additional technical features of claim 3 are conventional technical means in the art. The additional technical features of claims 4-8 are disclosed by D1 (see D1, description, paragraphs [0052]-[0092], and fig. 1-6). Therefore, dependent claims 2-8 also lack an inventive step in the sense of PCT Article 33(3).

[9] (II) Industrial applicability

WRITTEN OPINION OF THE
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International application No.

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Box No. V

Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability;
citations and explanations supporting such statement

- [10] The technical solutions of claims 1-8 can be made or used in industry. Therefore, claims 1-8 are industrially applicable in the sense of PCT Article 33(4).

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/CN2016/082344**Box No. VII Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

- [1] The title of the subject matter of dependent claims 4-8 is inconsistent with the title of the subject matter of claim 1 to which claims 4-8 refer. Claims 4-8 do not comply with PCT Article 6.4.