

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 PCT20170060	FOR FURTHER ACTION		See item 4 below
International application No. PCT/CN2017/095014	International filing date (<i>day/month/year</i>) 28 July 2017 (28.07.2017)	Priority date (<i>day/month/year</i>) 10 February 2017 (10.02.2017)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant YUAN, Quan			

<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 6 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 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 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 13 August 2019 (13.08.2019)
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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 (day/month/year) 16 November 2017	
Applicant's or agent's file reference PCT20170060	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/CN2017/095014	International filing date (day/month/year) 28 July 2017
Priority date (day/month/year) 10 February 2017	
International Patent Classification (IPC) or both national classification and IPC B62D 55/088(2006.01)i; B62D 55/12(2006.01)i	
Applicant YUAN, Quan	

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/CN2017/095014

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:

WRITTEN OPINION OF THE
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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 of claims 1-5 of the present application is valid in the sense of PCT Article 8.

**WRITTEN OPINION OF THE
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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	1-5 _____ YES None _____ NO
	Inventive step (IS)	Claims	1-5 _____ YES None _____ NO
	Industrial applicability (IA)	Claims	1-5 _____ YES None _____ NO
2. Citations and explanations :			
[1] Cited document:			
[2] D1: CN 105593111 A			
[3] (I) Novelty and inventive step			
[4] Independent claim 1 relates to an anti-wind crawler driving wheel with gears. D1 discloses a working vehicle capable of removing attachment of waste straws, etc., comprising a crawler 75, a tension roller 74, a driving wheel 73, a crawler chain 75b, a shell 94, and a guide roller 95. The crawler 75 is wound on the driving wheel 73 and the tension roller 74. A guide plate 81 is used for removing mud, waste straws, etc. A scraper 101 is fixedly provided on a vehicle body 2 and a driving shell 105. The scraper 101 has a deck 101b formed along the inner circumference of the crawler 75. The mud, waste straws, etc. attached inside a crawler portion 70 is removed from the rear end of the crawler 75 by means of the scraper 101 (see D1, description, paragraphs [0038]-[0097], and fig. 1-17).			
[5] Claim 1 mainly differs from D1 in that the anti-wind crawler driving wheel further comprises a trigger gear, a one-way gear, a transition rod, a trigger rod, a baffle sleeve, an inner baffle, and a shell having multiple sharp corners uniformly distributed at the outer circumference; one end of the transition rod is mounted in the middle of one end of the baffle sleeve by means of a hinge, and the other end is mounted with the trigger rod by means of the hinge; the trigger rod is slidably mounted in a trigger hole; a first spring support is mounted on the inner circumference of the shell, the trigger rod passes through a square hole on the first spring support, and a second spring support is mounted on the trigger rod; a spring is nested on the trigger rod, and one end of the spring is connected to the first spring support, and the other end is connected to the second spring support; two ends of a rotating shaft are respectively fixed on two side plates, the trigger gear is mounted on the rotating shaft, the one-way gear is mounted on the rotating shaft in a one-way transmission mode, and the one-way gear has a gear gap; one end of the trigger rod has teeth and is meshed with the trigger gear; a snap board passes through a square snap hole, one end of the snap board has teeth, and snap board is meshed with the one-way gear; when the baffle sleeve and the inner baffle are in contact with an inclined plane of the sharp corner, and the snap board corresponds to the gear gap of the one-way gear; a side top plate is fixedly mounted on a fixing shaft of the side top plate by means of a fixing hole of the side top plate.			
[6] D1 does not explicitly or implicitly disclose all the technical features of claim 1. Therefore, claim 1 is novel in the sense of PCT Article 33(2).			
[7] The technical problem claim 1 attempts to solve is to prevent failure of the crawler wheel caused by winding a twining object on the sharp corner of the driving wheel and prevent the shell from falling when the crawler is driven. A person skilled in the art would not be motivated or prompted to arrive at the technical solution of claim 1 according to the prior art or a combination thereof. Therefore, claim 1 involves an inventive step in the sense of PCT Article 33(3).			
[8] Dependent claims 2-5 refer to claim 1. Therefore, claims 2-5 are also novel in the sense of PCT Article 33(2) and involve an inventive step in the sense of PCT Article 33(3).			
[9] (II) Industrial applicability			

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/CN2017/095014**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**

- [10] The technical solutions of claims 1-5 can be made or used in industry. Therefore, claims 1-5 are industrially applicable in the sense of PCT Article 33(4).