

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 063437	FOR FURTHER ACTION		See item 4 below
International application No. PCT/CN2006/001394	International filing date (<i>day/month/year</i>) 20 June 2006 (20.06.2006)	Priority date (<i>day/month/year</i>) 12 July 2005 (12.07.2005)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant GAO, Zhuyu			

<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 8 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 checked="" type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" 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 checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report 16 January 2008 (16.01.2008)
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY

(PCT Rule 43 *bis*.1)

To
SHANGHAI PATENT & TRADEMARK LAW OFFICE, LLC,
435 Guiping Road Shanghai 200233 China
ZHANG Zhengquan

Date of mailing
(*day/month/year*) 19 OCT 2006 (19 · 10 · 2006)

Applicant's or agent's file reference 063437		FOR FURTHER ACTION see paragraph 2 below	
International application No. PCT/CN2006/001394	International filing date (<i>day/month/year</i>) 20.JUN.2006 (20.06.2006)	Priority date (<i>day/month/year</i>) 12.JUL.2005 (12.07.2005)	
International Patent Classification (IPC) or both national classification and IPC See supplemental box			
Applicant GAO, Zhuyu et al.			

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 43 *bis*.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

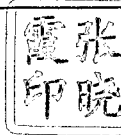
2. FURTHER ACTION

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 66.1 *bis*(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.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Date of completion of this opinion 17.SEP.2006 (17.09.2006)	Authorized officer ZHANG Xiaoxia  Telephone No. (86-10) 62085838
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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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. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of :
 - a. type of material
 - a sequence listing
 - table(s) related to the sequence listing

 - b. format of material
 - on paper
 - in electronic form

 - c. time of filing/furnishing
 - contained in the international application as filed
 - filed together with the international application in electronic form
 - furnished subsequently to this Authority for the purposes of search

3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto 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.

4. 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

1. Statement:

Novelty (N)	Claims	1-13	YES
	Claims	1,13	NO
Inventive step (IS)	Claims	1-13	YES
	Claims	1,5,13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations

D1: WO, A1, 2004106673 D2: CN, Y, 2634043 D3: US, B2, 6679532
D4: US, B1, 6293207 D5: JP, A, 8333931

The independent claim 1 describes a mechanical logic device. D1 is regarded as being the closest prior art, and also discloses a mechanical logic device. The device is the device with two positions. A move component is set in the casing of the device. The move component is a columnar structure. Springs, columnar pins and the move component constitute a cylinder structure. The device also comprises a lock mechanism, a restoration mechanism and a force output mechanism. The force input of the locking mechanism and the restoration mechanism has a certain logic relation with the state of the cylinder and the force output. The locking can be released (equivalent to the un-locking position in the application) by pushing or pulling the impeding chip of the locking mechanism (equivalent to the external locating locking mechanism in the application). The locking mechanism can be one or many. The device uses an application method of mechanical logic. D1 also discloses a digital lock of mechanical logic (equivalent to the mechanical theftproof apparatus in the application) which uses said mechanical logic device (see pages 16-17, 29 of the description and figures 1, 2.1, 22 in D1).

1) Novelty

Because there are many "and" and "can" in the independent claim 1, the independent claim 1 comprises many technical solutions.

In the independent claim 1, if said locking mechanism is (are) one or many external locating locking mechanism(s) and the external locating locking mechanism(s) is (are) located in un-locking position when external force is used, the technical solution of the independent claim 1 is disclosed in D1, consequently the independent claim 1 does not meet requirement of PCT 33(2) as regards novelty.

Except the above technical solution, each of the other technical solutions in the independent claim 1 is not disclosed in D1 respectively, consequently the independent claim 1 meets requirement of PCT 33(2) as regards novelty.

Because D1 does not disclose technical solution in each of the claims 2-12 respectively, the claims 2-12 meet requirement of PCT 33(2) as regards novelty.

The claim 13 also comprises many technical solutions. When the mechanical theftproof apparatus of the claim 13 uses the said mechanical logic device using an application method of mechanical logic defined by the claim 1, the technical solution of the claim 13 is disclosed in D1. Consequently the claim 13 does not also meet requirement of PCT 33(2) as regards novelty when the claim 1 cited by the claim 13 does not meet requirement of PCT 33(2) as regards novelty.

Except the above technical solution, each of the other technical solutions in the claim 13 is not disclosed in D1 respectively, consequently the claim 13 meets requirement of PCT 33(2) as regards novelty.

2) Inventiveness

Apparently, the technical solution of the independent claim 1, which does not meet requirement of PCT 33(2) as regards novelty, does not also meet requirement of PCT 33(3) as regards inventiveness.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

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

In the independent claim 1, if said locking mechanism is(are) one or many external locking mechanism(s) and the external locking mechanism(s) control(s) locking by external force and the locking mechanism(s) is(are) un-locking state when external force is disappeared, or when said locking mechanism is(are) one or many external locating locking mechanism(s) and the external locating locking mechanism(s) is(are) located in locking position when external force is used, the above technical solutions of the independent claim 1 are distinguished from D1 in that the above technical features, but the above distinguishing features are common means in the art. Those skilled in the art can obtain obviously the technical solutions of the independent claim 1 from the combination of D1 and the above common means, consequently the independent claim 1 does not meet requirement of PCT 33(3) as regards inventiveness.

When in the independent claim 1, different kinds of locking mechanisms and self-returning locking mechanisms are set the same device with double positions and the different kinds of locking mechanisms are set as many positions so that a device with many positions or a device with mixed double positions is formed, those skilled in the art can not obtain obviously the technical solution of the independent claim 1 from the combination of the above cited documents or the combination of the above cited documents and common means, consequently the independent claim 1 meets requirement of PCT 33(3) as regards inventiveness.

Those skilled in the art can not obtain obviously the technical solutions of the claims 2-4, 6-12 from the combination of the above cited documents or the combination of the above cited documents and common means, consequently the claims 2-4, 6-12 meet requirement of PCT 33(3) as regards inventiveness.

D1 also discloses the method by which many devices with double positions can be connected together(see pages 20-21 of the description and figures 6-8 in D1), and those skilled in the art can obtain obviously the technical solution of the claim 5 from the combination of D1 and common means, consequently the claim 5 does not also meet requirement of PCT 33(3) as regards inventiveness when the claim 1 which is cited by the claim 5 does not meet requirement of PCT 33(3) as regards inventiveness.

Apparently, the technical solutions in the claim 13 which do not meet requirement of PCT 33(2) as regards novelty do not also meet requirement of PCT 33(3) as regards inventiveness.

When the claims which are cited by the claim 13 do not meet requirement of PCT 33(3) as regards inventiveness, those skilled in the art can also obtain obviously the technical solution of the claim 13 from the combination of D1 and the common means, consequently the claim 13 does not also meet requirement of PCT 33(3) as regards inventiveness.

The claim 13 also meets requirement of PCT 33(3) as regards inventiveness when the claim 1 which is cited by the claim 13 meets requirement of PCT 33(3) as regards inventiveness.

3) Industrial applicability

Claims 1-13 meet the requirement of PCT 33(4) as regards industrial applicability, because the technical solutions defined by the claims 1-13 are found to have practical application in industry.

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Box No. VII Certain defects in the international application

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

When the technical solution included in the claim 13 is that a mechanical theftproof apparatus, characterized in that the apparatus uses the mechanical theftproof apparatus defined by any one of the claims 9-12, the claim 13 has the same protection scope as any one of the claims 9-12, consequently the claim 13 does not meet requirement of PCT 6 as regards conciseness of the claims.

Box No. VIII **Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. We can know that the mechanical logic device comprises the device with mixed double positions from “the said mechanical logic device is a mixed double counter, the counter is composed of the device with mixed double positions,.....” recorded in the claim 3, but we can know that the mechanical logic device is the device with double positions from “the mechanical logic device is a device with double positions,....., the different kinds of locking mechanisms are set as many positions so that a device with many positions or a device with mixed double positions is formed” recorded in the independent claim 1 which is cited by the claim 3. Thus it can be seen that the contents of the claim 3 have contradiction, consequently the claim 3 does not meet requirement of PCT 6 as regards clarity of the claims. In a similar reason, claims 4-8 do not also meet requirement of PCT 6 as regards clarity of the claims.

2. The claim 8 records that “the mechanical logic device is a testproof lock”, and the claim 7 which is cited by the claim 8 records that “the mechanical logic device is an optional prizing-proof lock”, but the relation between the testproof lock and the optional prizing-proof lock is not clear. Consequently the claim 3 does not meet requirement of PCT 6 as regards clarity of the claims. In a similar reason, the relation between “the theftproof apparatus with twice protective type used in an auto” recorded in claim 10, “the theftproof apparatus with two doors” recorded in claim 11 or “the double-alarming theftproof door with mechanically twice locking type” recorded in claim 12 and “the sequence theftproof apparatus” recorded in claim 9 is not also clear, consequently claims 10-12 do not also meet requirement of PCT 6 as regards clarity of the claims.

3. “Such as” used in the claims 4-5 and “etc.” used in the claim 6 make the protection scope of the claims ambiguous, consequently the claims 4-6 do not meet requirement of PCT 6 as regards clarity of the claims.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of : International Patent Classification (IPC) or both national classification and IPC

G05G21/00 (2006.01) i

G05G5/00 (2006.01) i

E05B37/00 (2006.01) i