

**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 V-67	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/JP2015/084880	International filing date ( <i>day/month/year</i> ) 14 December 2015 (14.12.2015)	Priority date ( <i>day/month/year</i> ) 25 December 2014 (25.12.2014)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant FUJIKIN INCORPORATED			

<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 27 June 2017 (27.06.2017)
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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)	<b>15.03.2016</b>
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Applicant's or agent's file reference <b>V-67</b>	<b>FOR FURTHER ACTION</b> See paragraph 2 below
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International application No. <b>PCT/JP2015/084880</b>	International filing date (day/month/year) <b>14.12.2015</b>	Priority date (day/month/year) <b>25.12.2014</b>
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International Patent Classification (IPC) or both national classification and IPC  
**F16K35/00 (2006.01) i, F16K31/122 (2006.01) i**

Applicant  
**FUJIKIN INCORPORATED**

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

International application 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:
  - 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/JP2015/084880
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<b>Box No. V</b>	<b>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>
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1. Statement			
Novelty (N)	Claims	2-5	YES
	Claims	1	NO
Inventive step (IS)	Claims	2-5	YES
	Claims	1	NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims		NO

2. Citations and explanations:	
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Document 1: JP 2000-283328 A (FUJIKIN INC.) 13 October 2000, paragraphs [0013]-[0028], fig. 1-3 (Family: none)

Document 2: JP 3020501 U (BENKAN CORP.) 02 February 1996, paragraphs [0007]-[0010], fig. 2, 4 (Family: none)

Document 3: JP 7-83338 A (KIYOHARA, Masako) 28 March 1995, paragraphs [0011]-[0024], fig. 1 & US 5439197 A, column 3, line 58 to column 7, line 12, fig. 1 & EP 651190 A1

The invention as in claim 1 is disclosed in document 1 cited in the international search report and therefore lacks novelty and does not involve an inventive step.

Concerning claim 1, document 1 describes a fluid controller provided with a body (2) having a fluid passage, a hood (3) provided above the body (2), a casing (4) provided above the hood (3), a valve body (6) that opens and closes the fluid passage, a stem (5) that moves the valve body (6) in the open or close direction

**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**

in response to an elevation or descent, and an actuator that moves the stem (5) vertically, wherein the fluid controller is provided with a stem vertical movement amount upper limit value setting means (composed of the upper surface of a flange 5a of a valve bar 5, and a lower step part 14 of the hood 3) for setting the upper limit value of the amount of vertical movement of the stem (5) accompanying opening and closing, and a stem vertical movement amount fine adjustment means (composed of a movable stopper 21 and the upper end of the valve bar 5) capable of adjusting, in a range no greater than the upper limit value, the amount of vertical movement of the stem (5) accompanying opening and closing.

The invention as in the claims 2-5 is novel and involves an inventive step.

Document 1 describes a fluid controller in which a stem vertical movement amount fine adjustment means has a moving body (21) that is moved vertically by rotation of a handle (34), and fine adjustment of the amount of stem vertical movement is obtained by varying the distance between the moving body (21) and an actuator drive shaft integrated with the stem (5).

However, none of the documents cited in the international search report discloses or suggests in particular "the upper limit value of the amount of stem vertical movement being obtained by varying the distance between the stem and the casing".

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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**

Concerning claim 3, document 2 describes a fluid controller in which the upper end of an actuator drive shaft (25) integrated with a stem (23) is inserted into a shaft insertion hole provided in a moving body (28), a flange (corresponding to the large diameter part positioned below the adjustment knob 28 of the fixing shaft 25) is provided at a portion of the actuator drive shaft (25) positioned below the shaft insertion hole, and the distance between the upper surface of the flange of the actuator drive shaft (25) and the lower surface of the moving body (28) is the amount of stem vertical movement.

However, none of the documents cited in the international search report discloses or suggests in particular "a stem vertical movement amount upper limit value setting means being provided with a lower protrusion part of a casing formed with a male screw, a female screw provided at the top wall of the hood, and a lock nut".

Concerning claim 4, document 2 describes the feature of a fluid controller in which a stem vertical movement amount fine adjustment means is provided with a handle (21) having a female screw at the inner periphery so as to be rotatably supported by a casing (20), a moving body (28) provided with a male screw at the outer periphery and screwed into the inner periphery of the handle (21), and a guide means for preventing rotation of the moving body (28) with respect to the casing (20) and enabling vertical movement.

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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

However, not even a person skilled in the art could easily conceive of applying the feature described in document 2 as the stem vertical movement amount fine adjustment means of the fluid controller described in document 1 to configure the invention as in claim 4.

Concerning claim 5, document 3 describes the feature of a fluid controller in which a handle (12) comprises an outer tube body (12') that is a portion held by the hand, an inner tube body (11) fitted into the outer tube body (12') and a shaft body (11') fitted into the inner tube body (11), a female screw (3c) is formed in the inner periphery of the casing (3), a male screw is formed screwed into the female screw (3c) of the casing (3), a male screw (11a) is formed at a smaller screw pitch than the screw pitch of the female screw (3c) of the casing (3) at the outer circumference of the shaft body (11'), and a female screw (10a) is formed screwed into the male screw (11a) of the shaft body (11') at the inner periphery of the moving body (10).

However, a person skilled in the art could not easily conceive of applying the feature described in document 3 as the stem vertical movement amount fine tuning means of the fluid controller described in document 1 to configure the invention as in claim 5.