

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2018/004071

<p>A. CLASSIFICATION OF SUBJECT MATTER Int.Cl. B23K26/00 (2014.01) i</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>											
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) Int.Cl. B23K26/00</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <table style="width:100%; border:none;"> <tr> <td style="padding-left: 20px;">Published examined utility model applications of Japan</td> <td style="text-align: right;">1922-1996</td> </tr> <tr> <td style="padding-left: 20px;">Published unexamined utility model applications of Japan</td> <td style="text-align: right;">1971-2018</td> </tr> <tr> <td style="padding-left: 20px;">Registered utility model specifications of Japan</td> <td style="text-align: right;">1996-2018</td> </tr> <tr> <td style="padding-left: 20px;">Published registered utility model applications of Japan</td> <td style="text-align: right;">1994-2018</td> </tr> </table> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)</p>			Published examined utility model applications of Japan	1922-1996	Published unexamined utility model applications of Japan	1971-2018	Registered utility model specifications of Japan	1996-2018	Published registered utility model applications of Japan	1994-2018	
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<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">Category*</th> <th style="width:70%;">Citation of document, with indication, where appropriate, of the relevant passages</th> <th style="width:20%;">Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">Y A</td> <td style="vertical-align: top;">JP 2011-212728 A (PANASONIC ELECTRIC WORKS SUNX CO., LTD.) 27 October 2011, paragraphs [0002], [0029]-[0093], fig. 1-4 (Family: none)</td> <td style="vertical-align: top;">10-13, 15-17 1-9, 14, 18-21</td> </tr> <tr> <td style="vertical-align: top;">Y</td> <td style="vertical-align: top;">JP 4575812 B2 (KEYENCE CORP.) 04 November 2010, paragraphs [0018]-[0061], fig. 7 (Family: none)</td> <td style="vertical-align: top;">10-13, 15-17</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y A	JP 2011-212728 A (PANASONIC ELECTRIC WORKS SUNX CO., LTD.) 27 October 2011, paragraphs [0002], [0029]-[0093], fig. 1-4 (Family: none)	10-13, 15-17 1-9, 14, 18-21	Y	JP 4575812 B2 (KEYENCE CORP.) 04 November 2010, paragraphs [0018]-[0061], fig. 7 (Family: none)	10-13, 15-17
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<p><input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.</p>											
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<p>Date of the actual completion of the international search 16 March 2018 (16.03.2018)</p>		<p>Date of mailing of the international search report 03 April 2018 (03.04.2018)</p>									
<p>Name and mailing address of the ISA/ Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan</p>		<p>Authorized officer</p> <p>Telephone No.</p>									

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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A	JP 2002-205178 A (HITACHI CONSTRUCTION MACHINERY CO., LTD.) 23 July 2002, paragraphs [0011]-[0040], fig. 1-7 (Family: none)	1-21
A	JP 2011-136347 A (KYOCERA CORP.) 14 July 2011, entire text, all drawings (Family: none)	1-21
A	JP 5397070 B2 (RICOH CO., LTD.) 22 January 2014, entire text, all drawings & US 2010/0039916 A1 & EP 2154633 A2 & CN 101648467 A	1-21