

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP20180/007819

A. CLASSIFICATION OF SUBJECT MATTER
 Int.Cl. G02B5/26 (2006.01) i, F28F13/18 (2006.01) i, G02B5/08 (2006.01) i,
 G02B5/28 (2006.01) i
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 Int.Cl. G02B5/26, F28F13/18, G02B5/08, G02B5/28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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| 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 |

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | WO 2015/002053 A1 (KONICA MINOLTA, INC.) 08 January 2015, claims, paragraphs [0021]-[0022], [0032]-[0035], [0119], [0131]-[0133], [0137], [0141]-[0145], fig. 2, 4 (Family: none) | 1-10 |
| A | WO 2015/190536 A1 (KONICA MINOLTA, INC.) 17 December 2015, paragraphs [0086]-[0088], [0092] (Family: none) | 1-10 |

Further documents are listed in the continuation of Box C. See patent family annex.

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| * Special categories of cited documents: | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "E" earlier application or patent but published on or after the international filing date | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
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| "O" document referring to an oral disclosure, use, exhibition or other means | |
| "P" document published prior to the international filing date but later than the priority date claimed | |

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| Date of the actual completion of the international search 17 May 2018 (17.05.2018) | Date of mailing of the international search report 29 May 2018 (29.05.2018) |
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| Name and mailing address of the ISA/ Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan | Authorized officer Telephone No. |
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| X | JP 2010-237415 A (KONICA MINOLTA OPTO, INC.) 21 October 2010, claims, paragraphs [0037]-[0041], [0047]-[0050], [0063]-[0070], [0092]-[0114], fig. 1 & US 2010/0245991 A1, paragraphs [0028]-[0032], [0038]-[0041], [0054]-[0061], [0083]-[0111], claims, fig. 1 | 1-10 |
| A | WO 2013/052927 A2 (SVAYA NANOTECHNOLOGIES, INC.) 11 April 2013, whole document & US 2014/0218792 A1 | 1-10 |
| A | JP 10-291839 A (NIPPON SHEET GLASS CO., LTD.) 04 November 1998, entire text (Family: none) | 1-10 |