

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2020/063800

**A. CLASSIFICATION OF SUBJECT MATTER***B25J 15/02*(2006.01)i; *B25J 15/04*(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)

B25J

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

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

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	JP S58217634 A (NIPPON KOKAN KK) 17 December 1983 (1983-12-17) figures 1-3	1-5,7,8,10,13,18 6,9,11,12,14-17
X A	JP S4838594 B1 (UNKNOWN) 19 November 1973 (1973-11-19) figures 1-5	1-3,10,12,13,15,18 4-9,11,14,16,17
X A	EP 3486043 A1 (SHINANO KENSHI CO [JP]; MU LAB LTD [JP]) 22 May 2019 (2019-05-22) figures 1, 7 paragraph [0036] - paragraph [0037] paragraph [0028] - paragraph [0031]	1-3,10,12,13,15,18 4-9,11,14,16,17

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

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“A” document defining the general state of the art which is not considered to be of particular relevance

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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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“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

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“&” document member of the same patent family

Date of the actual completion of the international search

31 August 2020

Date of mailing of the international search report

16 September 2020

Name and mailing address of the ISA/EP

European Patent Office  
p.b. 5818, Patentlaan 2, 2280 HV Rijswijk  
Netherlands

Telephone No. (+31-70)340-2040

Facsimile No. (+31-70)340-3016

Authorized officer

Kielhöfer, Simon

Telephone No.

**INTERNATIONAL SEARCH REPORT**  
**Information on patent family members**

International application No.

**PCT/EP2020/063800**

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
JP S58217634 A	17 December 1983	JP S6037858 B2	28 August 1985
		JP S58217634 A	17 December 1983
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EP 3486043 A1	22 May 2019	CN 109672296 A	23 April 2019
		EP 3486043 A1	22 May 2019
		JP 6634059 B2	22 January 2020
		JP 2019072795 A	16 May 2019
		US 2019111573 A1	18 April 2019