

PATENT COOPERATION TREATY
PCT

INTERNATIONAL SEARCH REPORT
(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1369PCT108	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below
International application No. PCT/CA2018/050271	International filing date (<i>day/month/year</i>) 07 March 2018 (07-03-2018)	(Earliest)Priority date (<i>day/month/year</i>) 09 March 2017 (09-03-2017)
Applicant HARDER, CRAIG ET AL		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 6 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out 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)).

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (see Box No. II).

3. **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CA2018/050271

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: *E02F 9/28* (2006.01), *E02F 3/36* (2006.01), *E02F 9/00* (2006.01), *E05B 47/00* (2006.01)

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)
 IPC: *E02F 9/28* (2006.01), *E02F 3/36* (2006.01), *E02F 9/00* (2006.01), *E05B 47/00* (2006.01), *E21B-023/**
 CPC: *E02F-009/2833*, *E02F-009/2841*

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

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

Questel Orbit (FAMPAT), Canadian Patent database, Google Patent

Keywords: remote*, signal, wireless*, lock*, control*, tooth, teeth, bit?, tip?, exten*, expan*, contract*, retract*, motor?, pin, shaft, solenoid?, actuator?, electric*, tool

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US2016258228A1 (THOMAS, S.G. et al.), 08 September 2016 (08-09-2016) *Fig. 1, 5, 6, 9 and 10*	8 1, 16 and 17
Y	US5709043A (JONES, L.F. et al.), 20 January 1998 (20-01-1998) *Fig. 1, 3, 16 and 40*	1, 16 and 17
A	US2015007464A1 (SIMPSON, M.C. et al.), 08 January 2015 (08-01-2015) *Whole document*	1 to 17
A	US4889194A (DANIELSSON, P.), 26 December 1989 (26-12-1989) *Whole document*	1 to 17

Further documents are listed in the continuation of Box C.

See patent family annex.

* "A" "E" "L" "O" "P"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance earlier application or patent but published on or after the international filing date document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed	"T" "X" "Y" "&"	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 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 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 document member of the same patent family
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Date of the actual completion of the international search
05 June 2018 (05-06-2018)

Date of mailing of the international search report
05 June 2018 (05-06-2018)

Name and mailing address of the ISA/CA
 Canadian Intellectual Property Office
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 Facsimile No.: 819-953-2476

Authorized officer

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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.
A	US7640684B2 (ADAMIC, D. et al.), 05 January 2010 (05-01-2010) *Whole document*	1 to 17
A	US2618873A (HOSTETTER, M.D.), 25 November 1952 (25-11-1952) *Whole document*	1 to 17
A	CA2852303A1 (JOHNSTON, C. et al.), 30 May 2013 (30-05-2013) *Whole document*	1 to 17
A	US2861362A (MAURICE, L. et al.), 25 November 1958 (25-11-1958) *Whole document*	1 to 17

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CA2018/050271

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
US2016258228A1	08 September 2016 (08-09-2016)	US2016258228A1 US9587442B2 WO2015142333A1	08 September 2016 (08-09-2016) 07 March 2017 (07-03-2017) 24 September 2015 (24-09-2015)
US5709043A	20 January 1998 (20-01-1998)	US5709043A AP1046A AU1286497A AU716062B2 AU8316298A BR9611931A BR9805063A CA2238644A1 CA2238644C CA2246999A1 DE69632544D1 DE69632544T2 DE69636964D1 DE69636964T2 DE69840201D1 EP0868577A1 EP0868577A4 EP0868577B1 EP0902132A2 EP0902132A3 EP0902132B1 EP1361313A2 EP1361313A3 EP1361313B1 ES2217337T3 ES2279035T3 ES2318863T3 JPH11500802A JP3461840B2 JP2002194778A JP3507471B2 JPH11181844A JP2002180505A MX9804705A NO982671D0 NO982671A NO320496B1 NZ325051A PT868577E PT1361313E TR199801053T2 TR199801802A2 TW311958B US5937550A WO9721880A1 ZA9610408B ZA9808227B	20 January 1998 (20-01-1998) 25 February 2002 (25-02-2002) 03 July 1997 (03-07-1997) 17 February 2000 (17-02-2000) 25 March 1999 (25-03-1999) 02 March 1999 (02-03-1999) 07 December 1999 (07-12-1999) 19 June 1997 (19-06-1997) 25 June 2002 (25-06-2002) 10 March 1999 (10-03-1999) 24 June 2004 (24-06-2004) 12 May 2005 (12-05-2005) 19 April 2007 (19-04-2007) 22 November 2007 (22-11-2007) 24 December 2008 (24-12-2008) 07 October 1998 (07-10-1998) 23 May 2001 (23-05-2001) 19 May 2004 (19-05-2004) 17 March 1999 (17-03-1999) 06 October 1999 (06-10-1999) 12 November 2008 (12-11-2008) 12 November 2003 (12-11-2003) 19 November 2003 (19-11-2003) 07 March 2007 (07-03-2007) 01 November 2004 (01-11-2004) 16 August 2007 (16-08-2007) 01 May 2009 (01-05-2009) 19 January 1999 (19-01-1999) 27 October 2003 (27-10-2003) 10 July 2002 (10-07-2002) 15 March 2004 (15-03-2004) 06 July 1999 (06-07-1999) 26 June 2002 (26-06-2002) 31 October 1998 (31-10-1998) 10 June 1998 (10-06-1998) 11 August 1998 (11-08-1998) 12 December 2005 (12-12-2005) 28 January 2000 (28-01-2000) 30 September 2004 (30-09-2004) 31 May 2007 (31-05-2007) 21 September 1998 (21-09-1998) 22 March 1999 (22-03-1999) 01 August 1997 (01-08-1997) 17 August 1999 (17-08-1999) 19 June 1997 (19-06-1997) 08 July 1997 (08-07-1997) 17 March 1999 (17-03-1999)
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Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
US4889194A	26 December 1989 (26-12-1989)	US4889194A AT58776T AU6401586A DE3675946D1 DK269087A DK269087D0 DK162852B DK162852C EP0269638A1 EP0269638B1 JPS63501650A JPH0768837B2 NO872214A NO872214D0 NO170298B NO170298C SE8504473D0 SE8504473L SE452042B WO8702091A1	26 December 1989 (26-12-1989) 15 December 1990 (15-12-1990) 24 April 1987 (24-04-1987) 10 January 1991 (10-01-1991) 26 May 1987 (26-05-1987) 26 May 1987 (26-05-1987) 16 December 1991 (16-12-1991) 18 May 1992 (18-05-1992) 08 June 1988 (08-06-1988) 28 November 1990 (28-11-1990) 23 June 1988 (23-06-1988) 26 July 1995 (26-07-1995) 26 May 1987 (26-05-1987) 26 May 1987 (26-05-1987) 22 June 1992 (22-06-1992) 30 September 1992 (30-09-1992) 27 September 1985 (27-09-1985) 28 March 1987 (28-03-1987) 09 November 1987 (09-11-1987) 09 April 1987 (09-04-1987)
US7640684B2	05 January 2010 (05-01-2010)	US2006127239A1 AU5409401A AU766917B2 AU2004200257A1 AU2004200257B2 CA2312550A1 CA2312550C US2002000053A1 US6959506B2	15 June 2006 (15-06-2006) 03 January 2002 (03-01-2002) 23 October 2003 (23-10-2003) 19 February 2004 (19-02-2004) 08 June 2006 (08-06-2006) 27 December 2001 (27-12-2001) 05 January 2010 (05-01-2010) 03 January 2002 (03-01-2002) 01 November 2005 (01-11-2005)
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Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
		PE20212014A1	15 December 2014 (15-12-2014)
		PH12014501085A1	28 July 2014 (28-07-2014)
		PH12014501085B1	28 July 2014 (28-07-2014)
		PH12016501241A1	21 November 2016 (21-11-2016)
		PH12016501242A1	21 November 2016 (21-11-2016)
		UA115536C2	27 November 2017 (27-11-2017)
		US2014215868A1	07 August 2014 (07-08-2014)
		US9322150B2	26 April 2016 (26-04-2016)
		US2016201299A1	14 July 2016 (14-07-2016)
		WO2013078101A1	30 May 2013 (30-05-2013)
US2861362A	25 November 1958 (25-11-1958)	None	