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- (21) **International Application Number:**
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(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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(54) **Title:** INFLATION DEVICES WITH PROXIMITY PAIRING AND METHODS AND SYSTEMS RELATED THERETO

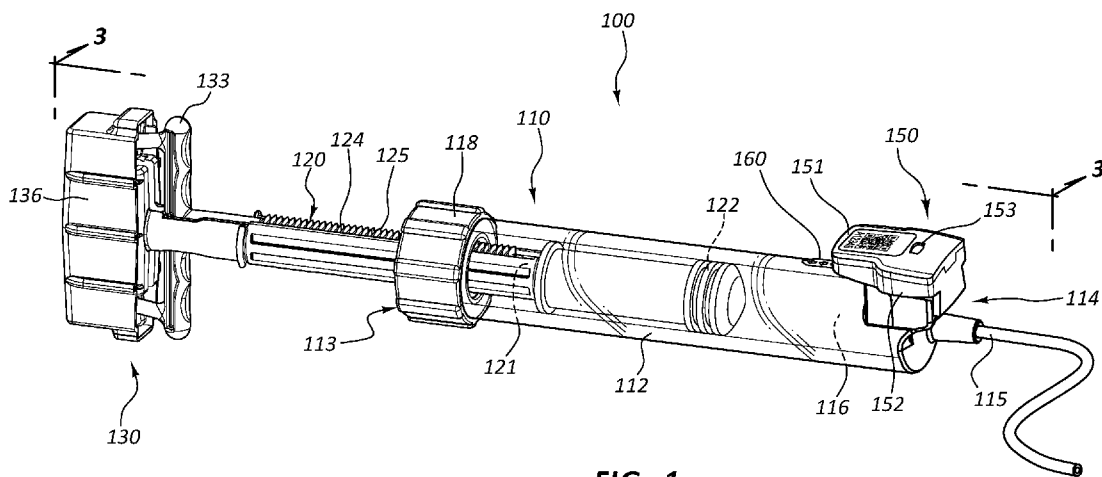


FIG. 1

(57) **Abstract:** Inflation devices configured to communicate with remote displays are disclosed herein. Systems including such inflation devices with portable display devices are also disclosed herein. Methods of pairing a medical device to a portable display and remotely displaying pressure data from a medical device are also disclosed herein. Devices, systems, and methods of connecting medical devices to remote displays using proximity pairing and visual aids, and transferring information to or from linked computers are also disclosed.



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

05 December 2019 (05.12.2019)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2019/028931

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: 5
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
Claim 5 is unclear, because this claim refers to multiple dependent claims which do not comply with PCT Rule 6.4(a).

3. Claims Nos.: 4,6-13,17,18
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See supplemental Box.

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of any additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-18

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2019/028931**A. CLASSIFICATION OF SUBJECT MATTER****A61B 5/00(2006.01)i, H04M 1/725(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)

A61B 5/00; A61B 1/00; A61M 25/00; G02B 23/24; G06F 19/00; G06Q 50/24; H04Q 9/02; H04M 1/725

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

Korean utility models and applications for utility models
Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: medical, marker, camera, pair, signal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2016-0239610 A1 (MEDICOM INNOVATION PARTNER A/S) 18 August 2016 See paragraphs [122]-[133],[181],[197], claim 3 and figures 1C,3A-3C.	1-3,14-16
Y	US 2017-0201811 A1 (KONICA MINOLTA, INC.) 13 July 2017 See paragraphs [33],[61],[99] and claims 1,5.	1-3,14-16
A	US 2015-0088091 A1 (C. R. BARD, INC.) 26 March 2015 See the whole document.	1-3,14-16
A	US 2017-0140120 A1 (SHENZHEN MINDRAY BIO-MEDICAL ELECTRONICS CO., LTD.) 18 May 2017 See the whole document.	1-3,14-16
A	JP 2017-225725 A (HOYA CORP.) 28 December 2017 See the whole document.	1-3,14-16

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

* Special categories of cited documents:

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

"D" document cited by the applicant in the international application

"E" earlier application or patent but published on or after the international filing date

"L" 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)

"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

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

30 October 2019 (30.10.2019)

Date of mailing of the international search report

30 October 2019 (30.10.2019)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2019/028931

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2016-0239610 A1	18/08/2016	EP 3092588 A1 WO 2015-104022 A1	16/11/2016 16/07/2015
US 2017-0201811 A1	13/07/2017	CN 106456006 A EP 3158922 A1 JP 2017-194381 A1 US 9762981 B2 WO 2015-194381 A1	22/02/2017 26/04/2017 20/04/2017 12/09/2017 23/12/2015
US 2015-0088091 A1	26/03/2015	AU 2013-235532 A1 AU 2013-235532 B2 CA 2864047 A1 CN 104246790 A CO 7111264 A2 EP 2828792 A1 JP 2015-516628 A MX 2014011280 A MX 339163 B RU 2014140544 A US 10092725 B2 US 2008-0108949 A1 US 2016-0158493 A1 US 2017-0232232 A1 US 2019-0038871 A1 US 9265912 B2 US 9642986 B2 WO 2013-142211 A1	28/08/2014 25/01/2018 26/09/2013 24/12/2014 10/11/2014 28/01/2015 11/06/2015 13/10/2014 13/05/2016 20/05/2016 09/10/2018 08/05/2008 09/06/2016 17/08/2017 07/02/2019 23/02/2016 09/05/2017 26/09/2013
US 2017-0140120 A1	18/05/2017	None	
JP 2017-225725 A	28/12/2017	None	

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2019/028931

Group 1, claims 1-18 are directed to : a system for remotely displaying sensor data from a medical device, and a method for wirelessly coupling a remote display device to a medical device.

Group 2, claims 19,20 are directed to : an inflation device configured for use with a medical device.

Since the above mentioned groups of claims do not share any of the technical features identified, a technically special relationship between the inventions, as defined in PCT Rule 13.2, does not exist. Accordingly, the claims do not relate to one invention or a single inventive concept under PCT Rule 13.1.