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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,
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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,
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(54) **Title:** INJECTION SITE TARGETING DEVICE

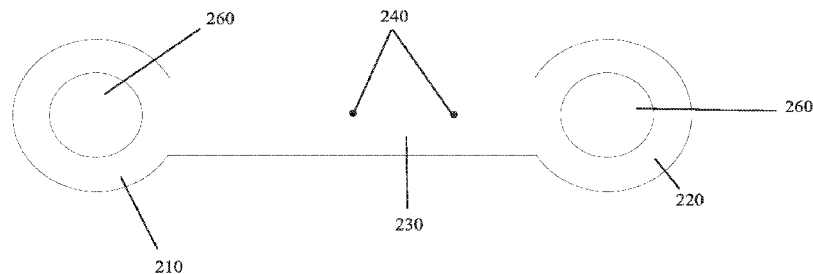


Figure 2C

(57) **Abstract:** An apparatus for targeting an injection site using anatomical landmarks includes a first landmark identifier, a second landmark identifier, and a targeting band. The targeting band is connected with the first landmark identifier at a first end and a second landmark identifier at a second end. At least a portion of the targeting band is linearly deformable. In another embodiment, an apparatus for targeting an injection site using anatomical landmarks on a patient includes a targeting band having a first end and a second end, at least a portion of the targeting band being linearly deformable, a first landmark identifier pivotably connected to the targeting band at the first end, a second landmark identifier configured to be connected with the second end of the targeting band; and a fastener configured to secure the first and second landmark identifiers to the patient.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US17/14422

A. CLASSIFICATION OF SUBJECT MATTER
 IPC - A61M5/00, A61N1/00 (2017.01)
 CPC - A61M5/427, A61M5/42, A61N1/0484

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)

See Search History document

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

See Search History document

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

See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 8,133,201 B1 (HURTADO, P) 13 March 2012; figure 2; column 2, lines 53-54.	1-10
X	US 2013/0327342 A1 (AMS RESEARCH CORPORATION) 12 December 2013; entire document	1-3, 8-10
A	US 2015/0045732 A1 (COMBAT MEDICAL SYSTEMS, LLC) 12 February 2015; entire document	1-10

☐ 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

"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

17 March 2017 (17.03.2017)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US17/14422

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.:
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:

3. ☐ Claims Nos.:
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:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fee must be paid.

Group I: Claims 1-10 are directed toward an apparatus for targeting an injection site using anatomical landmarks, comprising targeting band is linearly deformable and a fastener configured to secure the first and second landmark identifiers to the patient.

Group II: Claims 11-21 are directed toward an apparatus for targeting an injection site using anatomical landmarks on a patient, comprising a pivot arm having a pivotable connection with the first landmark identifier.

Group III: Claim 22 is directed toward an apparatus for targeting an injection site using anatomical landmarks on a patient, comprising directional markers, a tensioning member and a scale.

----See Supplemental Page----

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 additional fees, this Authority did not invite payment of 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.:
1-10

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
Information on patent family members

International application No.

PCT/US17/14422

---Continued from Box III: Lack of Unity of Invention---

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features.

Group I has at least a portion of said targeting band is linearly deformable and a fastener configured to secure the first and second landmark identifiers to the patient that Groups II and III do not have.

Group II has at least a pivot arm having a pivotable connection with the first landmark identifier and a second landmark identifier connected with the pivot arm that Groups I and III do not have.

Group III has at least a tensioning member having a first end and a second end, the tensioning member being pivotably connected to the landmark identifier at the first end, the tensioning member including comprising an adjustable tensioning mechanism and a scale configured to move between the first end and the second end, and a marker to indicate the position of the adjustable tensioning mechanism relative to the pivotable connection, a targeted location, wherein the first end of the targeting band is connected with the first end of the tensioning member and the second end of the targeting band is connected with the adjustable tensioning mechanism that Groups I and II do not have.

The common technical features of Groups I-III are at least a first landmark identifier, a second landmark identifier, and a targeting band connected with the first landmark identifier at a first end and the second landmark identifier at a second end, and a first landmark identifier pivotably connected to the targeting band at the first end. These common features are disclosed by US 2012/0035468 A1 to RITCHEY, N et al. (hereinafter 'Ritchey'). Ritchey discloses a first landmark identifier (sensor 2185 targeting first distal landmark, figure 48, paragraphs [0159]-[0160]), a second landmark identifier (sensor 2186 targeting a proximal landmark, figure 48, paragraphs [0159]-[0160]), and a targeting band connected with the first landmark identifier at a first end and the second landmark identifier at a second end (deformable tape body 2183 (targeting band) coupled to sensor 2185 on distal end and sensor 2186 on proximal end, figure 48, paragraphs [0158]-[0160]), a first landmark identifier pivotably connected to the targeting band at the first end (notch or detent at reference point R3 or on or more other bends to bias tape body 2183 (pivotably connected) connecting sensor 2185 and tape body 2183, figure 48, paragraphs [0158]-[0160]).

Since the common technical feature is previously disclosed by the Ritchey reference, these common features are not special and so Groups I-III lack unity.