

Title (en)

DEVICE AND METHOD FOR AUTOMATED INSERTION OF PENETRATING MEMBER

Title (de)

VORRICHTUNG UND VERFAHREN ZUM AUTOMATISIERTEN EINFÜHREN EINES PENETRIERELEMENTS

Title (fr)

DISPOSITIF ET PROCÉDÉ POUR INSERTION AUTOMATISÉE D'ÉLÉMENT DE PÉNÉTRATION

Publication

EP 4125649 A4 20240501 (EN)

Application

EP 21781581 A 20210401

Priority

- US 2021025356 W 20210401
- US 202016837675 A 20200401

Abstract (en)

[origin: WO2021202864A1] An automatic insertion device and method of using the same is provided. A vibrator and an extender are connected to a penetrating member and are both in electrical communication with a controller. A detector identifies a subcutaneous target for insertion and the insertion angle, distance and trajectory for the penetrating member are calculated. The vibrator provides vibrations to the penetrating member and the extender advances the penetrating member for insertion. The vibrator and extender are in electrical communication with one another during the insertion process and adjustments to the insertion speed are made based on feedback of vibrational load encountered by the vibrator during insertion, and adjustments to the vibrations are made based on feedback of insertion load encountered by the extender during insertion. Iterative samples are taken to constantly adjust the operation of one motor based on the operations and feedback from the other motor.

IPC 8 full level

A61B 17/34 (2006.01); **A61B 8/08** (2006.01); **A61B 8/14** (2006.01); **A61B 17/32** (2006.01); **A61M 5/42** (2006.01); **A61M 5/46** (2006.01)

CPC (source: EP)

A61B 17/320068 (2013.01); **A61B 17/3403** (2013.01); **A61M 5/427** (2013.01); **A61B 8/0841** (2013.01); **A61B 8/0891** (2013.01); **A61B 8/488** (2013.01); **A61B 2017/320098** (2017.08); **A61B 2017/3409** (2013.01); **A61B 2017/3413** (2013.01)

Citation (search report)

- [A] US 2017080166 A1 20170323 - BAGWELL ROGER B [US], et al
- [A] US 2018325547 A1 20181115 - BAGWELL ROGER B [US], et al
- [A] US 2013172713 A1 20130704 - KIRSCHENMAN MARK B [US]
- [A] US 2017188990 A1 20170706 - VON ALLMEN DANIEL [US], et al
- [A] US 2013072856 A1 20130321 - FRANKHOUSER PAUL L [US], et al
- See also references of WO 2021202864A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

WO 2021202864 A1 20211007; AU 2021249145 A1 20221124; CA 3174393 A1 20211007; EP 4125649 A1 20230208; EP 4125649 A4 20240501; JP 2023520556 A 20230517

DOCDB simple family (application)

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