



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
29.04.2020 Bulletin 2020/18

(51) Int Cl.:
A61B 5/11 (2006.01) A61B 5/00 (2006.01)

(43) Date of publication A2:
15.04.2020 Bulletin 2020/16

(21) Application number: **19202101.2**

(22) Date of filing: **08.10.2019**

(84) Designated Contracting States:
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 States:
BA ME
 Designated Validation States:
KH MA MD TN

- **SHAH, Aahish**
Wixom, MI 48393 (US)
- **YARDIBI, Tarik**
Raynham, MA 02767 (US)
- **OSMANAGIC, Emir**
Raynham, MA 02767 (US)
- **SCARFE, Darren**
Raynham, MA 02767 (US)

(30) Priority: **12.10.2018 US 201816158734**

(74) Representative: **Klunker IP**
Patentanwälte PartG mbB
Destouchesstraße 68
80796 München (DE)

(71) Applicant: **DePuy Synthes Products, Inc.**
Raynham, Massachusetts 02767-0350 (US)

(72) Inventors:
 • **WYBO, Christopher**
Wixom, MI 48393 (US)

(54) **NEUROMUSCULAR SENSING DEVICE WITH MULTI-SENSOR ARRAY**

(57) A sensing device for detecting an artificially induced neuromuscular response within a limb of a subject includes a carrier material and a plurality of mechanical sensors. The carrier material is operative to be secured around a portion of the limb, and each of the plurality of mechanical sensors are coupled with the carrier material. Each mechanical sensor is positioned on the carrier material such that it is operative to monitor a mechanical response of a different muscle group of the limb. Each mechanical sensor then generates a respective mechanomyography output signal corresponding to the monitored mechanical response of its adjacent muscle group. These signals may then be communicated outbound from the device via communication circuitry provided on the device.

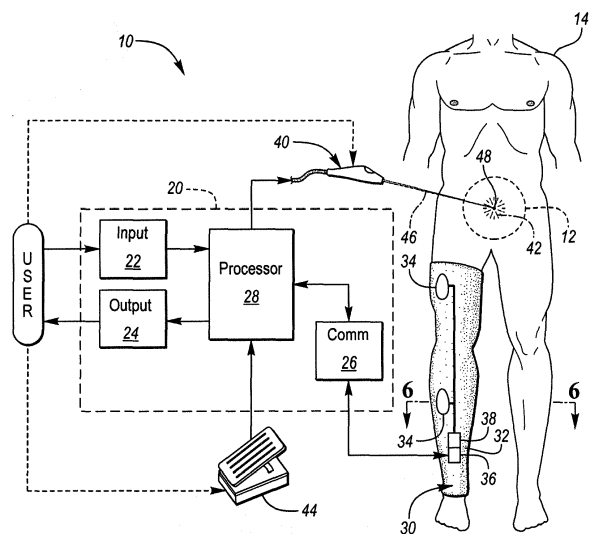


FIG. 1



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

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Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

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No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

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LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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see sheet B

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All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

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As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

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None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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1-6, 14, 15

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The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 19 20 2101

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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1. claims: 1-6, 14, 15

A sensing device for detecting an artificially induced neuromuscular response within a limb of a subject with means for determination of proper device placement on the limb

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2. claims: 7-11

A sensing device for detecting an artificially induced neuromuscular response within a limb of a subject with means for detecting the proximity of a nerve to a stimulus within an intracorporeal treatment area

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3. claims: 12, 13

A sensing device for detecting an artificially induced neuromuscular response within a limb of a subject with means for performing a nerve conduction study

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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 19 20 2101

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

02-12-2019

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 9622684	B2	18-04-2017	NONE
US 2006276704	A1	07-12-2006	US 2006276704 A1 07-12-2006 WO 2006132860 A2 14-12-2006
US 9084550	B1	21-07-2015	NONE
US 2018132757	A1	17-05-2018	AU 2017356223 A1 16-05-2019 BR 112019009489 A2 30-07-2019 CA 3043311 A1 17-05-2018 CN 110234268 A 13-09-2019 CO 2019005709 A2 28-06-2019 EP 3537955 A1 18-09-2019 JP 2020500583 A 16-01-2020 SG 11201903520U A 30-05-2019 US 2018132757 A1 17-05-2018 WO 2018089916 A1 17-05-2018

专利名称(译)	多传感器阵列的神经肌肉测量装置		
公开(公告)号	EP3636154A3	公开(公告)日	2020-04-29
申请号	EP2019202101	申请日	2019-10-08
[标]申请(专利权)人(译)	DePuy公司SYNTHES产品, INC.		
申请(专利权)人(译)	DePuy公司SYNTHES PRODUCTS, INC.		
当前申请(专利权)人(译)	DePuy公司SYNTHES PRODUCTS, INC.		
[标]发明人	WYBO CHRISTOPHER YARDIBI TARIK SCARFE DARREN		
发明人	WYBO, CHRISTOPHER SHAH, AAHISH YARDIBI, TARIK OSMANAGIC, EMIR SCARFE, DARREN		
IPC分类号	A61B5/11 A61B5/00		
CPC分类号	A61B5/40 A61B5/4519 A61B5/72 A61B5/7203 A61B5/746 A61B5/1104 A61B5/1107 A61B5/1116 A61B5/4893 A61B5/6828 A61B5/0488 A61B2505/05 A61N1/0452 A61N1/0456 A61N1/0476 A61N1/ /36003		
优先权	16/158734 2018-10-12 US		
其他公开文献	EP3636154A2		
外部链接	Espacenet		

摘要(译)

用于检测受试者的肢体内的人工诱发的神经肌肉反应的感测装置包括载体材料和多个机械传感器。载体材料可操作地固定在肢体的一部分周围,并且多个机械传感器中的每一个都与载体材料耦合。每个机械传感器定位在载体材料上,使得其可操作以监测肢体的不同肌肉群的机械响应。然后,每个机械传感器都会生成相应的机电系统输出信号,该信号对应于其相邻肌肉组的监视机械响应。然后可以通过设备上提供的通信电路将这些信号从设备传出。

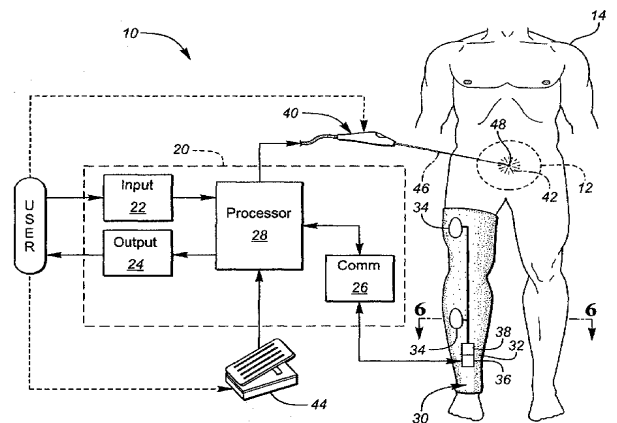


FIG. 1