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(54) **DEVICE FOR NON-INVASIVE PREVENTIVE CLEANING OF CEREBROSPINAL FLUID SHUNT SYSTEMS**

VORRICHTUNG ZUR NICHTINVASIVEN PRÄVENTIVEN REINIGUNG VON SHUNT-SYSTEMEN  
FÜR ZEREBROSPINALFLÜSSIGKEIT

DISPOSITIF DE NETTOYAGE PRÉVENTIF NON INVASIF DE SYSTÈMES DE DÉRIVATION DE  
LIQUIDE CÉPHALO-RACHIDIEN

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(56) References cited:  
**WO-A1-2019/150372 US-A1- 2004 230 117**  
**US-A1- 2006 235 349 US-A1- 2013 158 464**  
**US-A1- 2016 279 449**

• **Anonymous: "La UE financiará un dispositivo  
para paliar síntomas de la hidrocefalia", , 23 May  
2019 (2019-05-23), XP055783060, Retrieved from  
the Internet:  
URL:<https://www.aulamagna.com.es/cern-con-acento-andaluz-investigadores-sevillanos-c-ontra-la-hidrocefalia/> [retrieved on 2021-03-08]**

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| <ul style="list-style-type: none"> <li>• Anonymous: "Combined optical imaging and ultrasound focusing for hand-held, non-invasive cleaning of implanted cerebrospinal fluid shunting devices in patients of hydrocephalus: initial design and proof-of-concept (FUSCLEAN) - ATTRACT Project", , 23 May 2019 (2019-05-23), XP055783023, Retrieved from the Internet: URL:<a href="https://attract-eu.com/showroom/project/combined-optical-imaging-and-ultrasound-focusing-for-hand-held-non-invasive-cleaning-of-implanted-cerebrospinal-fluid-shunting-devices-in-patients-of-hydrocephalus-in-initial-design-and-proof-of-concept/">https://attract-eu.com/showroom/project/combined-optical-imaging-and-ultrasound-focusing-for-hand-held-non-invasive-cleaning-of-implanted-cerebrospinal-fluid-shunting-devices-in-patients-of-hydrocephalus-in-initial-design-and-proof-of-concept/</a> [retrieved on</li> </ul> | <ul style="list-style-type: none"> <li>2021-03-08]</li> <li>• Gómez-González Emilio ET AL: "Public deliverable for the ATTRACT Final Conference Combined optical imaging and ultrasound focusing for hand-held, non-invasive cleaning of implanted cerebrospinal fluid shunting devices in patients of hydrocephalus: initial design and proof-of-concept (Project FUSCLEAN)", , 23 May 2019 (2019-05-23), XP055783042, Retrieved from the Internet: URL:<a href="https://attract-eu.com/wp-content/uploads/2019/05/FUSCLEAN.pdf">https://attract-eu.com/wp-content/uploads/2019/05/FUSCLEAN.pdf</a> [retrieved on 2021-03-08]</li> </ul> |
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