

Title (en)
APPARATUS AND METHODS FOR A SPHERICAL ASSEMBLY

Title (de)
VORRICHTUNG UND VERFAHREN FÜR EINE SPHÄRISCHE ANORDNUNG

Title (fr)
APPAREIL ET PROCÉDÉS D'ENSEMBLE SPHÉRIQUE

Publication
EP 3969310 A4 20220601 (EN)

Application
EP 20805564 A 20200513

Priority
• US 201916413015 A 20190515
• US 2020032592 W 20200513

Abstract (en)
[origin: WO2020232066A1] A propulsion apparatus and corresponding methods are provided. The apparatus employs weights within a spherical assembly that can rotate within the spherical assembly. Gravity, acting on the weights, causes a moment of a gravitational force to be applied to the spherical assembly, which can cause the spherical assembly to propel. The spherical assembly may also include one or more motors to rotate the weights within the spherical assembly. In some embodiments, the weights include magnetic cores and conductors. The apparatus can include magnetic windings that provide a magnetic flux through which the weights may rotate. The apparatus can also provide an electrical current to the conductors. As the weights with the magnetic cores rotate through the magnetic flux, the apparatus applies a current to the conductors. As such, a magnetic force is applied to the weights, which can propel the spherical assembly.

IPC 8 full level
B60K 7/00 (2006.01); **A63H 33/00** (2006.01); **B60B 19/00** (2006.01); **B60B 19/14** (2006.01); **F03G 3/00** (2006.01); **F03G 7/10** (2006.01)

CPC (source: EP)
B60B 19/003 (2013.01); **B60B 19/14** (2013.01); **B60K 7/0007** (2013.01); **F03G 3/097** (2021.08); **F03G 7/107** (2021.08); **F03G 7/115** (2021.08); **F03G 7/125** (2021.08); **A63H 33/005** (2013.01); **B60K 2007/003** (2013.01)

Citation (search report)
• [I] US 2015123451 A1 20150507 - NELSON DAVID W [US]
• [XI] GB 2239636 A 19910710 - CHAPMAN MICHAEL JOHN LEIGH
• [A] WO 9930876 A1 19990624 - UNIV MICHIGAN STATE [US], et al
• [A] "Reactionless Drive", 12 May 2010 (2010-05-12), XP055040360, Retrieved from the Internet <URL:http://en.wikipedia.org/w/index.php?title=Reactionless_drive&dl=36...> [retrieved on 20121008]
• [A] "Mechanics (Page: Conservation of momentum)", INTERNET CITATION, 1 January 2007 (2007-01-01), XP002447083, Retrieved from the Internet <URL:http://www.britannica.com/eb/article-77548> [retrieved on 20070816]
• [A] MARC G. MILLIS MILLIS ET AL: "Responding to Mechanical Antigravity", 42ND AIAA/ASME/SAE/ASEE JOINT PROPULSION CONFERENCE & EXHIBIT, 9 July 2006 (2006-07-09), Reston, Virginia, XP055215169, ISBN: 978-1-62-410038-3, DOI: 10.2514/6.2006-4913
• See also references of WO 2020232066A1

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

DOCDB simple family (publication)
WO 2020232066 A1 20201119; CN 113825664 A 20211221; CN 113825664 B 20240412; EP 3969310 A1 20220323; EP 3969310 A4 20220601

DOCDB simple family (application)
US 2020032592 W 20200513; CN 202080036118 A 20200513; EP 20805564 A 20200513