



Circular laser battery patent application

This application claims the benefit of Korean Patent Application No. 10-2020-0097704, filed on Aug. 5, 2020, which is hereby incorporated by reference in its entirety into this application. ... a chargeable battery supplying power to the laser generator and the control board; and a cooler cooling the laser generator. The cooler may be an air ...

Area-array CCD vision sensor based on circular laser trajectory used for weld seam location and seam tracking was developed. In order to meet the requirement of 3D recovery, order-statistic ...

Laser beam welding of metals has progressed dramatically over the last years mainly arising from joining applications in the field of electromobility. Allowing the flexible, automated manufacturing of ...

DOI: 10.1016/j.renene.2023.03.132 Corpus ID: 258044868; Battery innovation and the Circular Economy: What are patents revealing? @article{Metzger2023BatteryIA, title={Battery innovation and the Circular Economy: What are patents revealing?}, author={Philipp Metzger and Sandro Mendonça and Jos{e} A. Silva and Bruno Figueiredo Dam{a}o}, journal={Renewable ...

There are many types of Directed Energy Weapon (DEW) systems being developed, each using a type of focused energy to destroy a target. These DEW systems may ...

Methods and apparatuses for processing lithium batteries with a laser source having a wide process window, high efficiency, and low cost are provided. The laser source is adapted to ...

A laser module assembly for generating a laser beam with a single cell battery and an efficient voltage multiplying or voltage reduction DC to DC converter which enables use of a single cell...

Battery IPFs by inventors" continents of origin, 2000-2019. Note: The íµí±¦-axis is log-scaled and all values are incremented by 1. It is clear that the number of battery IPFs from Asia ...

In 2010, only 0.26% of lithium ion battery patent publications were labelled as involving recycling using cooperative patent classification (CPC), which allocates specific codes to each area of technology. But there was a five-fold increase to 1.37% by 2020. "The target is clear: the battery value-chain must become more circular," the study ...

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The increasing demand for contacting applications in electric components such as batteries, power electronics and electric drives is boosting the use of laser-based copper processing.



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The 1xxx series, particularly AA1050 and AA1060, consisting primarily of pure aluminum, is used in battery pack manufacturing as an alternative to copper to reduce weight and material costs. 1,2 Laser beam welding has gained popularity in battery pack manufacturing, offering competitive advantages, such as low thermal deformation, high depth-to ...

the laser beam(s) emitted by the light source 14 may remove layers of the anodized aluminum (e.g., a surface layer of anodized aluminum) to form the second bonding area 138 . Due to detectable differences in the contrast between the second bonding area 138 and the remainder of the anodized aluminum bus bar 118, the vision system 30 of the machine 10 can detect the ...

Demonstrate roll-to-roll laser ablation processing of battery electrodes at rates up to 10 m/min (electrode width up to 160mm) with laser patterning optimized to produce >40% increase of ...

A connector, a battery, a battery pack, and an electricity-consumption device are provided in the disclosure. The connector includes a current collecting layer and a ...

Publications and Patents. Laser Ablation for Structuring Li-Ion Electrodes for Fast ... (2022) Laser Ablation for Lithium-Ion Batteries, Nonprovisional U.S. Patent Application No. 63/149,466 (Filed 2021) Sensor-Guided Adaptive ...

The BLACK+DECKER® 13 Amp 7-1/4 in. electric circular saw is up for the challenge of making straight, rip, bevel, and miter cuts accurately and efficiently. This circular saw's 13 Amp motor delivers the ideal amount of cutting power, ...

One patent application per month on average Approx. 10 participations in trade fairs / 20 organized events per year ;Fraunhofer ILT ... Laser technology for battery systems/modules production Welding Welding Contacting of cylindrical cells type 18650 for ...

A laser apparatus is provided which is capable of achieving deep penetration into an aluminum-like metal material without causing welding defects such as spatters or cracks and performing...

A patent by Renault SAS describes a fast charging device for an electric vehicle that includes a rectifier input stage configured to be connected to a power supply network and an inverter output stage configured to be connected to the battery. Tesla Inc. has a patent for a battery swapping system and techniques with an EESS exchange station ...

oof JournalPre-proof 93 period, global scope, all battery domains), but is also distinguished from extant 94 contributions by providing an appraisal of patent textual content from which 95 novel insights regarding circularity" are derived (for background see Dang and 96 Serajuddin (2020); De Jesus and Mendonça (2018), Morales et al. (2022), Den- 97 ter et al. (2022)).



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the shell-like sections 32 and 34 are formed internally with adjacent circular wells, which form the battery compartment 75 of the laser marker 28 is described in detail in U.S. Patent Application Publication No. 2003/0231303 A1, ... This invention relates to a laser marker, a circular saw with a laser marker, a protractor, and a ...

The present invention relates to a laser alignment device of a circular saw, including a rotary disk base, a protective cover, and a magnetic ring base. ... 2002-01-02 Priority to US10/040,715 priority Critical patent/US6584695B1/en 2003-07-01 Application granted granted ... without having to additionally provide the battery to provide an ...

An object of the present invention is to provide an aluminum alloy material for pulse laser welding and a battery case in which abnormal portions are prevented from being formed by pulse laser welding of an A1000 aluminum material and a uniformly good weld can be formed. The aluminum alloy material for pulse laser welding is made of an A1000 aluminum material, and has a ...

The formation of undesirable microstructures and defects hinders the widespread use of additive manufacturing, e.g., the formation of columnar grains in Ti-6Al-4 V leads to undesirable anisotropic mechanical properties. Here, we investigate the application of a novel synchronized circular laser array in the powder bed fusion technique to alter the ...

the laser ignition device comprises a vertical cavity surface emitting semiconductor laser 3, and a laser lens 4 placed in front of the laser, wherein the laser lens 4 is a positive lens, the laser ignition device produces a circular laser converging spot 10 in the cigarette cylinder 2, and the cigarette 8 insertion point After the chimney 2, it can be ignited after hitting the laser ...

Justia Patents US Patent Application for SOLID-STATE BATTERY Patent Application (Application #20230113174 ... (D50) measured by laser diffraction and scattering particle size distribution measurement, unless otherwise noted. ... but are not limited to, a circular shape, an ellipse shape, a rectangular shape and any arbitrary polygonal shape ...

The laser is operated by a centrifugal switch mounted within the laser arbor along with a laser diode or the like and a battery. Because of the rotation of the laser with the blade and the persistence of the human eye, the moving light spot from the laser appears as a single line, hence it is not necessary as in the prior art to produce light ...

The vision sensor consists of CCD image sensor and light system based on a rotary lens that generates circular laser beam, as shown in Fig. 2. According to the experimental results, to GTA welding, there exists one arc light summit at wavelength of 611.49. nm.. During the image acquisition, this arc light will be reflected and removed from the welded seam image.



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