Micro-glassblowing Technology and Applications

Tech ID: 18781 / UC Case 2006-519-0

BACKGROUND

A cutting-edge technique for creating intricate micro-scale glass structures, enhancing the performance and reliability of Micro-Electro-Mechanical Systems (MEMS) devices.

TECHNOLOGY DESCRIPTION

Micro-glassblowing is an advanced precision engineering method used to fabricate complex glass structures at a micro-scale. It plays a crucial role in developing advanced MEMS devices, including gyroscopes, by enabling the creation of environmentally robust micro-wineglass gyroscopes through a process of stacking, bonding, and releasing glass layers to form protective shells and resonators. This technology not only improves device resilience but also opens up new possibilities in various fields such as packaging, optics, biomedical devices, and architectural design.

APPLICATIONS

- Advanced MEMS devices, including gyroscopes
- Packaging for electronic and optical components
- Micro-optical components such as lenses and waveguides
- Biomedical devices and implants
- Innovative architectural glass structures

ADVANTAGES

- High precision in manufacturing intricate structures
- Versatility in applications across different fields
- Enhanced durability and performance of MEMS devices
- Enables miniaturization of components

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,151,600	04/10/2012	2006-519

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OTHER INFORMATION

CATEGORIZED AS

- **Materials & Chemicals**
  - Other
- **Medical**
  - Delivery Systems
  - Devices
- **Nanotechnology**
  - Electronics
  - Other
  - Tools and Devices
- **Optics and Photonics**
  - All Optics and Photonics
- **Research Tools**
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- **Sensors & Instrumentation**

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- » Physical Measurement
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2006-519-0, 2010-231-0

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