TECH SCAN

TAMPER PROOF LID

BAZZAAR

WHERE MIND MEETS MARKET

Packaging in today's world calls for a multi-functional approach for introducing a new product design language. Nowadays, people expect the products consumed to be safe. Deliberate or unintentional tampering and leakage of food products has been witnessed in the past leading to catastrophic events requiring a cautious approach to packaging. This has led to the advent of this technology, aimed at enhanced product safety, integrity, and consumer confidence by preventing tampering and leakage throughout storage and transportation.

Tamper-Proof Lid technology refers to mechanisms or features implemented in lids of containers to prevent unauthorized access or tampering with the contents inside. Leak Proof Lid technology refers to the common issue of leaks, spills, and contamination, ensuring that contents remain securely sealed.

These technologies are particularly important in industries where product safety and integrity are critical, such as pharmaceuticals, food and beverage, and chemical industries. Hence there is a growing demand for this technology.

TIMELINE

1966
First Patent for a Tamper-Evident Closure with a Tear Tab

1974
Induction Sealing Technology Emerges

1982
Johnson & Johnson Introduces Tamper-Evident Seals on Medications

1990
Widespread Adoption of Shrink Bands and Tamper-Evident Labels

1995
Improvement in Leak-Proof Technology with Better Seal Mechanisms

1998
Integration of Pressure Relief Valves for Carbonated Beverages

2002
Introduction of RFID Tags for Enhanced Security in Supply Chains

2007
Emergence of Sustainable Lid Materials

2012
Incorporation of Antimicrobial Coatings into Tamper-Proof Lids for Product Safety

2018
Introduction of Smart Tamper Detection Systems with IoT Connectivity

2023
Evolution of Customizable Tamper Indicators for Tailored Solutions

PATENTABLE COMPONENTS

There are several elements in Tamper-Proof Lid Technology that could potentially qualify for patent protection. Frequently, the following domains are examined for patentability:

LOCKING MECHANISMS

Pilfer Proof Arrangement

- Automatic Locking Mechanism
- Multi-Stage Locking Systems
- Self-Locking Mechanisms
- Press- Based Locking
- Leak-Proof Mechanisms

LEAK-PROOF DESIGN

Gaskets & Seals

- Smart Valves
- Double-Walled/Self-Venting Designs
- High-Resistance Materials
- Customizable Lid Design

TAMPER-EVIDENT FEATURES

Tamper-Indicating Mechanisms

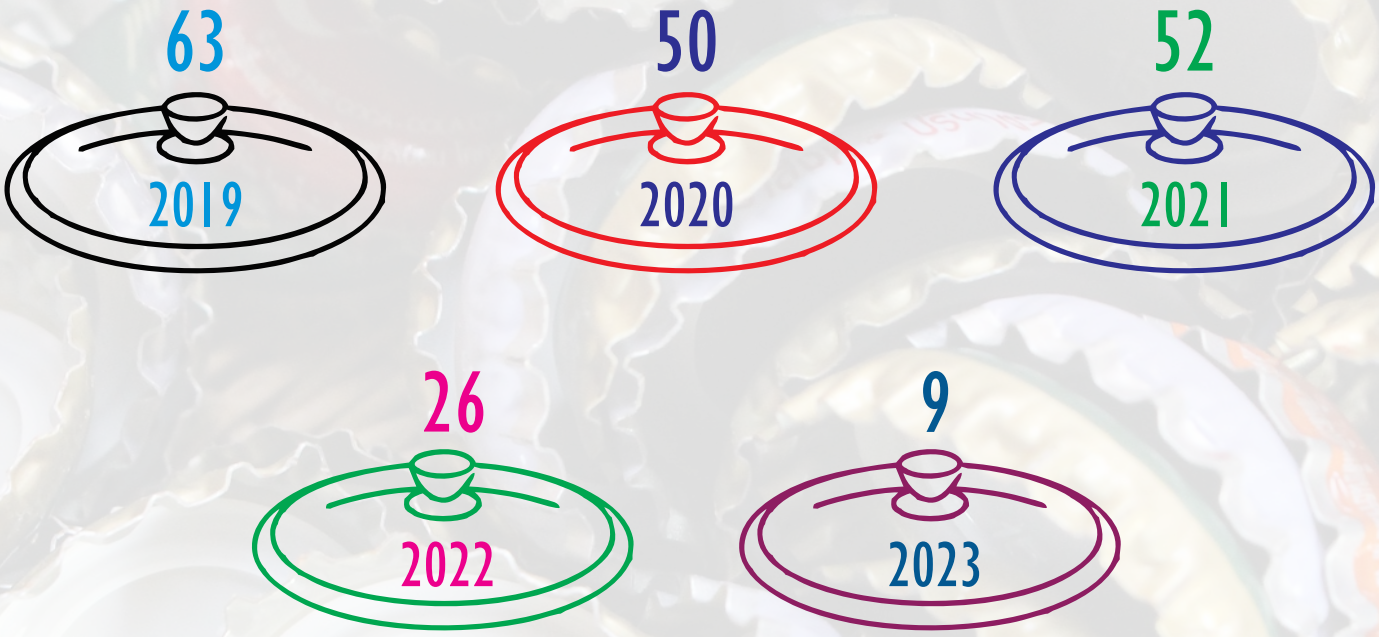
- RFID Tags Integration
- Unique Breakage Pattern Seal
- Sensors Integration
- Tamper-Resistant Materials
- Digital Authentication Integration

NOVEL MATERIAL COMPOSITION

- Eco-Friendly Materials
- Lid Durability
- Customized Material Blends
- Antimicrobial Agents' Incorporation
- Recyclable Materials

USER-FRIENDLY USER CONTROLLED AUTO-LOCKING DYNAMIC PRESSURE REGULATION

PATENT STATISTICS



TOP APPLICANTS

- 8 Convatec
- 7 Sonoco Development
- 5 Citadel Casing
- 5 Nihon Yamamura Glass
- 5 Schreiner
- 4 3m Innovative Properties
- 4 Bericap Holding
- 4 Hangzhou Wopuwulian Science & Technology
- 3 Betapack
- 3 Apple

Database: Questel Orbit

Date Range: 01/01/2019 to 31/12/2023

PATENT LANDSCAPE

EPO
128

CHINA
119

UNITED STATES OF AMERICA
110

JAPAN
67

GERMANY
54

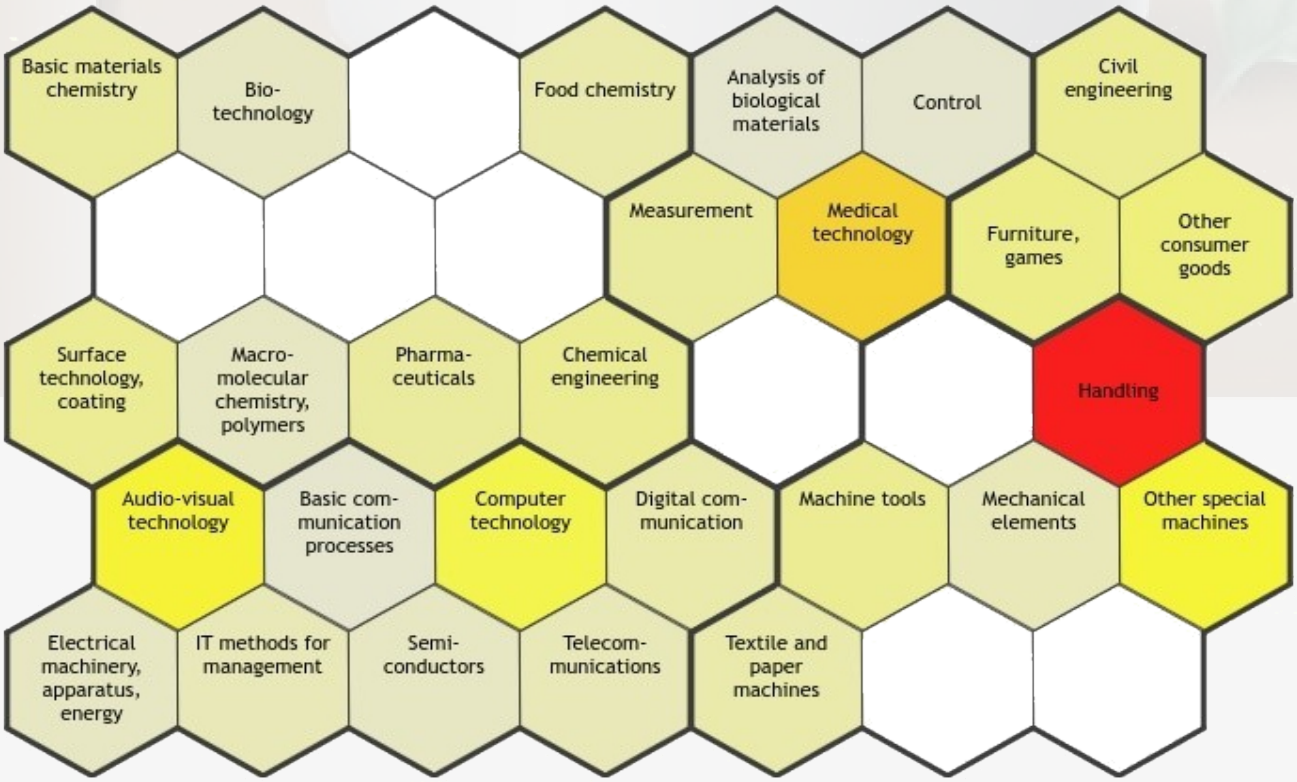
CANADA
44

CHINA
35

FRANCE
35

INDIA
35

TECHNOLOGY DOMAIN



Database: Questel Orbit

WHITESPACE

Polymeric Closure Lid For Cell & Tissue Culture Storage Device

Hinged Lid for Syringe Storage & Disposable Container

Environment Friendly & Sustainable Lid

Lids for Cryogenic Storage Vial

Enhanced Durability & Reliable Lid

Tamper Evident Shrink Band

QR Codes, RFID Tags & App Enabled Lid

Tamper Evident Tape & Induction Seal

Tamper Proof Irrigation System

Smart IoT Based Tamper Detection Lid System

Tamper Proof Gaskets & Tear Strip

ML & AI Mediated Tamper Lid

Database: Questel Orbit

NOTABLE INNOVATIONS

Patent Application	Priority Date	Title	Assignee
US3251509A	20.11.1964	Tamperproof Container Closure	Clark Mfg Co J L
CA859615	29.12.1970	Induction Sealing of Thermoplastic Objects	George Yates
EP0281255	06.02.1987	Container For A Number of Packaged Contact Lenses	Johnson & Johnson
CA2192848	20.07.1994	Tamper Evident Shrink Band	The Pillsbury Company
WO2011150456	03.06.2010	Beverage Container Sealing Lid	Procter, Andrew, John
WO2017106361	04.02.2016	Tamper-evident Container and Method	Sabert Corporation
WO2018071971	09.01.2017	Apparatus, Methods and Systems For Food Waste Recycling	Boyle, Norman
WO2020049394	05.09.2018	A Leak-proof Portable Food and Beverage Storage Container	Nahar, Vikram M.
WO2021041482	27.08.2019	Carton with Tamper-Evident Feature	Graphic Packaging International, Llc
Wo2022079581	12.10.2020	Supercapacitor Sealing LID	Freudenberg Sealing Technologies S.a.s. Di Externa Italia S.r.l.u.

If you would like to learn more about any of these areas or have specific questions, we're here to provide further information and insights. Our team is dedicated to driving progress and staying at the forefront of Tamper Proof Lid Technology.

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Where Mind Meets Market

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