SYSTEM FOR GENERATING PYROTECHNIC IMPACTS, AND ASSOCIATED METHOD

Technological advantages

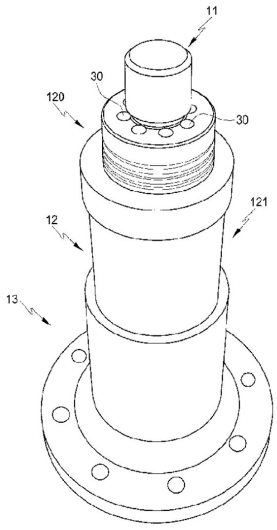
- Accurate reproduction of pyrotechnic shocks: high-energy shocks.
- Simultaneous Cartridge Control: detonate multiple pyrotechnic cartridges, ensuring synchronized explosion.
- Modularity and Shock Level Flexibility.
- Enhanced Durability and Easier Maintenance.
- Optimized Detonation Design.

Invention synthesis

The invention presents a pyrotechnic shock generation system. The system comprises a main percussion stage featuring a barrel and a striker. The barrel head, which incorporates a plurality of chambers for pyrotechnic cartridges, and a striker with percussive means (an annular lip) configured to simultaneously detonate all these cartridges. This configuration enables the controlled generation of high-energy shocks. The system can include a second percussion stage that triggers the first stage's striker, often via a projectile. The system is designed to be attached to the surface under test via a mounting support that includes a damper. Gases generated by the cartridge explosions propel an impactor towards the tested surface. The associated method outlines the steps for mounting the support and generating the shock.

Potential applications

- Space Qualification Testing: satellites, launch vehicles, and their sub-systems.
- Aeronautical and Defense Industry: aircraft components, missiles, and ammunition.
- Materials Research and Development: Evaluating the shock resistance of new materials.
- Automotive Industry: Simulating shock events for safety or performance testing of components.
- Embedded Electronics: Testing the resistance of complex electronic systems.



System for g
(10) percussion stage
(11) striker configured to move in translation in (12)
(12) barrel
(30 pyrotechnic cartridge
(120) barrel head

Commercial benefits

- Reduced Costs: reduction in testing campaign costs compared to using live explosives or oversized electrodynamic exciters.
- Improved Reliability of Tested Equipment.
- Increased Testing Efficiency: Easier control and reproducibility of shocks.
- Enhanced Safety: The system offers a safer alternative to using unconfined explosives for shock testing.

Patented invention - under license.

For more information :

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