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(71)Name of Applicant :

1)Chitkara University

Address of Applicant :Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura -----

2)Chitkara Innovation Incubator Foundation

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Dr. Rajneesh Talwar

Address of Applicant :Dean, Department of Interdisciplinary Courses in Engineering, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura -----

2)Dr. Manvinder Sharma

Address of Applicant :Associate Professor, Department of Interdisciplinary Courses in Engineering, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura -----

3)Dr. Satyajit Anand

Address of Applicant :Associate Professor, Department of Interdisciplinary Courses in Engineering, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura -----

(57) Abstract :

A smoke containment system for aircraft cabin, comprising a smoke detecting sensor 101 to detect smoke, an AI camera 102 to identify passengers near the fire, a speaker 103 to alert authorized personnel for evacuation, a holographic projection module 104 guides each passenger visually toward designated safe zones, a first chamber 105 houses an integrated roller 106 wound with a specialized sheet 107 containing hollow patches 108 filled with activated carbon for air purification, multiple HEPA filters 109 with a rapid deployment assembly 110 and are positioned between each cabin segment for filtration. The rapid deployment assembly 110 comprising a multi-stage telescopic linear actuator 110a driven by a motorized cable- pulley 110d, a second chamber 111, adjacent to the HEPA filters 109, includes a roller 112 carrying the electrostatic filter 113, which is unrolled and electrically charged for smoke purification.

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