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(54) Title of the invention : INTELLIGENT QR-AUTHENTICATED SENSOR-INTEGRATED LOWER BERTH LOCKER WITH ALARM AND DATABASE CONNECTIVITY FOR ENHANCED LUGGAGE SECURITY IN RAILWAY COACHES

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(57) Abstract :

The present invention relates to an intelligent, sensor-integrated lower berth luggage locker system designed to enhance security in Indian Railway AC coaches through QR-based passenger authentication, real-time tamper detection, and automated alarm activation. The system comprises a stainless-steel electromechanical locker controlled by a microcontroller that verifies passenger identity using a unique QR code linked to the Passenger Reservation System (PRS). A multi-sensor array—including proximity, load, vibration, and door-status sensors—continuously monitors the locker environment to detect unauthorized access or suspicious activity. Upon detecting anomalies, the system triggers a high-decibel alarm and sends wireless notifications to railway staff. The locker operates on a hybrid power architecture combining coach supply with rechargeable battery backup and maintains digital logs of access events for traceability. The modular, retrofit-compatible design allows deployment in both existing and new railway coaches, providing a comprehensive, digitally authenticated, and tamper-resistant luggage security solution. Accompanied Drawing [FIGS. 1-2]

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