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(57) Abstract :
[057] This proposed invention presents a revolutionary approach to internal combustion engines, focusing on Compression Ignition (CI) Engines, through the exclusive use of Pure Diesel as the primary fuel source. The innovation encompasses a holistic strategy to optimize CI engine performance and environmental sustainability, including the refinement of combustion processes, the integration of advanced exhaust aftertreatment technologies, the development of high-precision fuel injection systems, and the implementation of adaptive engine management systems. By employing Pure Diesel, combustion efficiency is greatly enhanced, resulting in improved fuel economy and substantial reductions in emissions, particularly of nitrogen oxides (NOx) and particulate matter (PM). The invention introduces dedicated exhaust aftertreatment systems, such as selective catalytic reduction (SCR) units for NOx reduction and diesel particulate filters (DPF) for PM capture, designed exclusively for Pure Diesel applications. This innovation holds the potential to transform various industries, offering cleaner, more efficient, and sustainable solutions for heavy-duty vehicles, construction, agriculture, and power generation. Moreover, it aligns with global efforts to reduce fossil fuel dependence and mitigate the environmental impact of CI Engines, marking a significant step toward a cleaner and more environmentally responsible future.
Accompanied Drawing [FIGS. 1-2]

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