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(57) Abstract :
FRACTAL-INSPIRED KINETIC TRANSFER SYSTEM FOR IMPROVED MECHANICAL EFFICIENCY ABSTRACT The Fractal-Inspired Kinetic Transfer System (100) introduces a novel approach to efficient torque transmission in mechanical systems. Key components include primary (102) and secondary (104) fractal gear mechanisms, rotational input means (106), and output means (108). The fractal-shaped teeth of the gear mechanisms, characterized by self-similar patterns at multiple scales, minimize friction and wear during torque transfer, enhancing mechanical efficiency. Furthermore, the system is configured to operate within a specific range of rotational speeds, utilizes a specialized lubrication system, and composite materials to improve durability. Additionally, surface treatments and feedback mechanisms enhance performance under varying load conditions. Additionally, a cooling system within the housing dissipates heat generated during operation. This invention offers advantages in mechanical efficiency, durability, versatility, and technological innovation, making it suitable for integration into various industrial and automotive applications.

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