

Title (en)
COMPOUND ROTARY-RECIPROCAL ENGINE

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Application
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Abstract (en)
[origin: WO8604388A1] The regenerative thermal engine relates to the field of reciprocating internal combustion engines and in particular to thermal engines that approach adiabatic conditions through effective integration of novel components and operations. Suggested reliance on ceramic components for adiabatic operation has created problems inherent in the materials and in the compatibility of the components with other metallic components. To solve problems encountered in increasing engine efficiency a novel regenerative cylinder (2) has been devised to operate with a piston (6) arranged to avoid contact with the cylinder wall. The regenerative wall or liner has a structure with surface cells (4) designed to admit, hold and release compressed air during the combustion cycle to thermally insulate the cylinder from the heat of combustion. Other components and arrangements combine to enable effective generation and use of higher operating pressures and temperatures to achieve overall engine efficiencies surpassing conventional systems for use in transportation and stationary generation of electrical and mechanical energy.

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