

Title (en)  
FUEL INJECTING DEVICE WORKING ACCORDING TO THE SOLID ENERGY ACCUMULATOR PRINCIPLE, FOR INTERNAL COMBUSTION ENGINES.

Title (de)  
KRAFTSTOFF-EINSPRITZVORRICHTUNG NACH DEM FESTKÖRPER-ENERGIESPEICHER-PRINZIP FÜR BRENNKRAFTMASCHINEN.

Title (fr)  
DISPOSITIF D'INJECTION DE CARBURANT FONCTIONNANT SELON LE PRINCIPE DE L'ACCUMULATEUR D'ENERGIE A SOLIDE POUR MOTEURS A COMBUSTION INTERNE.

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Application  
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Abstract (en)  
[origin: WO9318297A1] A fuel injection device works according to the solid energy accumulator principle. A reciprocating piston (10, 14) guided in the cylinder of a reciprocating piston pump (1) driven by an electromagnet (9) delivers portions of the fuel to be injected to the pump area during a practically resistance-free acceleration phase that precedes injection and during which the reciprocating piston (10, 14) accumulates kinetic energy. Fuel delivery is then suddenly stopped by delivery interrupting means (6), so that a pressure shock is generated in the fuel located in a closed pressure chamber, by direct transmission of the accumulated kinetic energy of the reciprocating piston (10, 14) to the fuel located in the pressure chamber. The pressure shock is used to inject fuel through an injection nozzle device (3). The pressure shock generating means that interrupt fuel delivery are located out of the guiding, liquid-tight contact area between the reciprocating piston (10, 14) and the cylinder of the reciprocating piston pump (1).

Abstract (fr)  
Un dispositif d'injection de carburant fonctionne selon le principe de l'accumulateur d'énergie à solide. Un piston alternatif (10, 14) guidé dans le cylindre d'une pompe (1) à piston alternatif entraînée par un électro-aimant refoule des portions du carburant à injecter dans la zone de la pompe, avant l'injection, pendant une phase d'accélération pratiquement sans résistance, pendant laquelle le piston alternatif (10, 14) accumule de l'énergie cinétique. Le refoulement est alors brusquement arrêté par des éléments d'interruption du refoulement (6), de sorte qu'un coup de bélier est généré dans le carburant situé dans une chambre de pression fermée par transmission directe de l'énergie cinétique accumulée par le piston alternatif (10, 14) au carburant situé dans la chambre de pression. Le coup de bélier est utilisé pour injecter le carburant à travers un dispositif d'injection à gicleur (3). Les éléments générateurs du choc de pression par interruption du refoulement sont situés à l'extérieur de la zone de contact de guidage étanche aux liquides entre le piston alternatif (10, 14) et le cylindre de la pompe (1) à piston alternatif.

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