

Title (en)  
GUN RECOIL BRAKE WITH A RUN-OUT DAMPER

Publication  
**EP 0351501 B1 19911127 (DE)**

Application  
**EP 89107188 A 19890421**

Priority  
DE 3824153 A 19880716

Abstract (en)  
[origin: US4924751A] A hydraulic recoil brake for damping both recoil and counterrecoil of a gun barrel when used with a pneumatic recuperator on the breech ring for the gun barrel. The brake has an axially extending brake cylinder fixed to the breech ring in which are disposed a fixed fluid stream control rod, and a brake piston reciprocally axially movable relative to the control rod for resisting a flow of hydraulic fluid in said brake cylinder therepast during recoil. A piston ring which is axially reciprocally displaceable on the brake piston between a first and second positions is engaged by a compression spring which elastically urges the piston ring to the second position after recoil. Brake pressure from the hydraulic fluid urges the piston ring into the first position against the force of the spring during a recoil. The piston ring has an axial bore which damps the counterrecoil by resisting a flow of hydraulic fluid therepast when the piston ring is in the second position. A face of the brake piston abuts an end of the bore to render it ineffective for damping when the piston ring is in the first position. The piston ring additionally serves to render damping by the control rod ineffective during counterrecoil by blocking connecting channels formed in the brake piston which connects brake chamber formed between the inner surface of the brake cylinder and the brake piston, and a throttle chamber between the piston rod of the brake piston and the control rod.

IPC 1-7  
**F41A 25/20**

IPC 8 full level  
**F41A 25/20** (2006.01)

CPC (source: EP US)  
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Cited by  
WO2021028165A1; US5343649A; DE102019121982A1; DE102019121982A8; DE102017103052A1; US11740049B2; WO2018149644A1

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