

Title (en)  
GUN BARREL

Publication  
**EP 0550847 A3 19930908 (DE)**

Application  
**EP 92121123 A 19921211**

Priority  
DE 4200171 A 19920107

Abstract (en)  
[origin: EP0550847A2] The invention relates to a gun barrel having rifling with a variable rifling angle and having a strip force  $R(x)$  (which acts when a round is fired) over the round path ( $x$ ) in the gun barrel, the calibre  $d$ , the round mass  $mG$ , the mass moment of inertia  $J$  about the round longitudinal axis, the gas force  $P(x)$  on the base of the round and the speed of the round  $v(x)$  being predetermined. In order to achieve exact rifling (in the context of manufacturing tolerances) corresponding to diverse desired properties of the strip force, it is provided that the strip force  $R(x)$  be determined in accordance with  $R(x) = R_{\max} R_n(x)$ , where  $R_{\max}$  is the maximum value of the strip force which is dependent on a predetermined final rifling angle  $\beta E$ , and  $R_n(x)$  is a predetermined, normalised strip-force behaviour with a specific rifling start, a specific initial rifling angle and a specific rifling profile, the course of the rifling on the calibre diameter being derived from the differential equation  $\langle \text{IMAGE} \rangle$  and  $R_{\max}$  being determined for a predetermined final rifling angle  $\beta E$ .  $\langle \text{IMAGE} \rangle$

IPC 1-7  
**F41A 21/18**

IPC 8 full level  
**F41A 21/18** (2006.01)

CPC (source: EP US)  
**F41A 21/18** (2013.01 - EP US)

Citation (search report)

- [XD] EP 0437675 A2 19910724 - RHEINMETALL GMBH [DE]
- [AD] DE 3409073 A1 19850926 - MAUSER WERKE OBERNDORF [DE]
- [A] DE 307710 C
- [A] DE 2140566 A1 19730301 - WEGMANN & CO
- [A] GB 127849 A 19190619 - HARRISON CHARLES WILFRID [GB]
- [T] RHEINMETALL 'WAFFENTECHISCHES TASCHENBUCH' 1989 , RHEINMETALL GMBH , DÜSSELDORF
- [T] C. CRANZ 'INNERE BALLISTIK' 1926 , JULIUS SPRINGER VERLAG , BERLIN
- [T] L. H[NERT 'GESCH]TZ UND SCHUSS' 1940 , JULIUS SPRINGER VERLAG , BERLIN
- [A] US-H-278 (J. STEINER)

Designated contracting state (EPC)  
CH DE FR GB LI SE

DOCDB simple family (publication)  
**EP 0550847 A2 19930714; EP 0550847 A3 19930908; DE 4200171 A1 19930708; DE 4200171 C2 20010726; US 5337504 A 19940816**

DOCDB simple family (application)  
**EP 92121123 A 19921211; DE 4200171 A 19920107; US 171793 A 19930107**