Title (en)

Gun barrel provided with a support for a collimator which is mounted near the muzzle end

Title (de)

Waffenrohr mit einer im Bereich der Rohrmündung angeordneten Kollimatorhalterung

Title (fr)

Tube de canon comportant un support pour collimateur disposé près de la bouche du canon

Publication

EP 0985897 A2 20000315 (DE)

Application

EP 99113996 A 19990719

Priority

DE 19841585 A 19980911

Abstract (en)

A collimator fitting for the front end of a gun barrel uses a dovetail fitting to slide the collimator (3) axially onto support blocks (11,12) on the barrel with sloping grips edges under the collimator and on the blocks. The dovetailed gripping surfaces have an angle of 2 to 5 degrees between them to prevent jamming. A transverse wedge (14) is pulled between the collimator and the barrel by a screw (20) to secure the fitting. The gap between the wedge and the clamping faces is between 3 and 8 degrees. This prevents the collimator jamming to the fitting when the barrel is hot.

Abstract (de)

Die Erfindung betrifft ein Waffenrohr (1) mit einer im Bereich der Rohrmündung (2) angeordneten Kollimatorhalterung (3) zur Befestigung eines Kollimators einer Feldjustieranlage. Um zu erreichen, daß die Kollimatorhalterung leicht, anwenderfreundlich und spielfrei montierbar ist, schlägt die Erfindung vor, als Kollimatorhalterung (3) einen Schlitten mit einer Schwalbenschwanzführung (7,8) zu verwenden, wobei die beiden seitlichen Führungsflächen der Schwalbenschwanzführung (7,8) einen keilförmigen Verlauf aufweisen. Der Schlitten (3) ist auf eine an der Rohrmündung (2) befindliche Schwalbenschwanzaufnahme (11,12) aufgeschoben, deren seitliche Führungsflächen ebenfalls keilförmig ausgebildet sind. Durch die in axialer Richtung geneigten seitlichen Führungsflächen der Schwalbenschwanzführung (7,8) in Verbindung mit der Neigung der Führungsflächen aufgrund des Schwalbenschwanzprofils, kommt es zu einem Verspannen des Schlittens (3) mit der waffenrohrseitigen Aufnahme (11,12). <IMAGE>

IPC 1-7 (main, further and additional classification)

F41A 21/00; F41G 1/033; F41G 1/54; F41G 3/32

IPC 8 full level (invention and additional information)

F41G 1/38 (2006.01); **F41A 21/00** (2006.01); **F41G 1/033** (2006.01); **F41G 3/30** (2006.01); **F41G 3/32** (2006.01); **G02B 7/00** (2006.01); **G02B 23/02** (2006.01); **G02B 27/30** (2006.01)

CPC (invention and additional information)

F41G 3/323 (2013.01); **F41G 1/033** (2013.01)

Citation (applicant)

None

Cited by

FR2827374A1; EP1275927A3; US6729223B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

EPO simple patent family

EP 0985897 A2 20000315; EP 0985897 A3 20001025; EP 0985897 B1 20011031; AT 208032 T 20011115; DE 19841585 A1 20000316; ES 2165219 T3 20020301; JP 2000088495 A 20000331; JP 3679281 B2 20050803; US 6318015 B1 20011120

INPADOC legal status

2017-11-30 [PGFP SE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : SE
- Payment date : 20170719
- Year of fee payment : 19

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- Ref Country Code : DE
- Payment date : 20170724
- Year of fee payment : 19

2017-10-31 [PGFP CH] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : CH
- Payment date : 20170719
- Year of fee payment : 19

2017-10-31 [PGFP GB] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GB
- Payment date : 20170719
- Year of fee payment : 19

2017-10-31 [PGFP FR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FR
- Payment date : 20170724
- Year of fee payment : 19

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- Ref Country Code : ES
- Payment date : 20170825
- Year of fee payment : 19

2017-10-31 [PGFP IT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : IT
- Payment date : 20170728
- Year of fee payment : 19

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- Year of fee payment : 19

2016-07-21 [REG FR PLFP] FEE PAYMENT
- Year of fee payment : 18

2007-10-30 [REG CH PFA] NAME/FIRM CHANGED
- Owner name : RHEINMETALL W & M GMBH
- Free text : RHEINMETALL W & M GMBH#HEINRICH-EHRHARDT-STRASSE 2#29345 UNTERLUESS (DE) - TRANSFER TO- RHEINMETALL W & M GMBH#HEINRICH-EHRHARDT-STRASSE 2#29345 UNTERLUESS (DE)

2003-02-01 [PG25 MC] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : MC
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20030201

2003-01-31 [BERE] BE: LAPSED
- Owner name : RHEINMETALL *W & M G.M.B.H.
- Effective date : 20020731

2002-10-23 [26N] NO OPPOSITION FILED

2002-08-21 [REG IE FD4D] EUROPEAN PATENTS DESIGNATING IRELAND TREATED AS ALWAYS HAVING BEEN VOID

2002-07-31 [PG25 BE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : BE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20020731

2002-07-31 [PG25 CY] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : CY
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20020731

2002-07-19 [PG25 AT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : AT
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20020719

2002-07-19 [PG25 LU] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : LU
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20020719

2002-04-02 [NLV1] NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT

2002-03-01 [REG ES FG2A] DEFINITIVE PROTECTION
- Document : ES 2165219 T3

2002-02-06 [GBT] GB: TRANSLATION OF EP PATENT FILED (GB SECTION 77(6)(A)/1977)
- Effective date : 20020110

2002-02-01 [PG25 GR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : GR
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

- Effective date : 20020201

2002-01-31 [PG25 DK] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : DK
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20020131

2002-01-31 [PG25 PT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : PT
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20020131

2002-01-04 [ET] FR: TRANSLATION FILED

2002-01-01 [REG GB IF02] EUROPEAN PATENT IN FORCE AS OF 2002-01-01

2001-12-12 [REG IE FG4D] EUROPEAN PATENTS GRANTED DESIGNATING IRELAND
- Free text : GERMAN

2001-12-06 [REF] CORRESPONDS TO:
- Document : DE 59900375 20011206

2001-11-15 [REG CH NV] NEW AGENT
- Representative's name : E. BLUM & CO. PATENTANWAELTE

2001-10-31 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : B1
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

2001-10-31 [REG CH EP] ENTRY IN THE NATIONAL PHASE

2001-10-31 [PG25 FI] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : FI
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20011031

2001-10-31 [PG25 IE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : IE
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20011031

2001-10-31 [PG25 NL] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : NL
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20011031

2001-10-31 [REF] CORRESPONDS TO:
- Document : AT 208032 T 20011115

2001-07-18 [AKX] PAYMENT OF DESIGNATION FEES
- Free text : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

2001-07-10 [ITF] IT: TRANSLATION FOR A EP PATENT FILED
- Owner name : CALVANI SALVI E VERONELLI S.R.L.

2001-04-18 [17Q] FIRST EXAMINATION REPORT
- Effective date : 20010302

2000-11-15 [17P] REQUEST FOR EXAMINATION FILED
- Effective date : 20000919

2000-10-25 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A3
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

2000-10-25 [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:

- Free text : AL;LT;LV;MK;RO;SI

2000-10-25 [RIC1] CLASSIFICATION (CORRECTION)
- Free text : 7F 41A 21/00 A, 7F 41G 3/32 B, 7F 41G 1/54 B, 7F 41G 1/033 B, 7F 41G 1/02 B

2000-03-15 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A2
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

2000-03-15 [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Free text : AL;LT;LV;MK;RO;SI