

Title (en)

UNMANNED TURRET HAVING A BALLISTIC PROTECTION SYSTEM IN THE ROOF STRUCTURE AND IN THE FLOOR

Title (de)

UNBEMANNTER TURM MIT EINEM BALLISTISCHEN SCHUTZSYSTEM IN DER DACHSTRUKTUR UND IM BODEN

Title (fr)

TOURELLE TÉLÉ OPERÉE AYANT UN SYSTÈME DE PROTECTION BALISTIQUE DANS LA STRUCTURE DU TOIT ET DANS LE SOL

Publication

**EP 4345409 A1 20240403 (EN)**

Application

**EP 22199203 A 20220930**

Priority

EP 22199203 A 20220930

Abstract (en)

A remotely operated unmanned turret (1) intended to be mounted on a supporting platform, wherein the turret may comprise some operational equipment, while it is devoid of crew ;wherein the first ballistic protection unit (11) is designed to allow detonation, penetration and expansion cone dispersion of energetic material (10) and/or shockwave propagation (9) within the air gap (6) ; andwherein the second ballistic protection unit (12) is designed to act as a barrier between the turret (1) and a chassis-crew compartment (7) of the supporting platform, so as to prevent further over-pressure and/or blast propagation into the chassis-crew space (7) and/or to absorb dispersed energetic material.

IPC 8 full level

**F41H 7/04** (2006.01)

CPC (source: EP)

**F41H 7/04** (2013.01)

Citation (applicant)

- EP 1499846 B1 20060517 - KRAUSS MAFFEI WEGMANN GMBH & C [DE]
- US 2012152101 A1 20120621 - ENGLEMAN GREGORY W [US], et al
- US 6622608 B1 20030923 - FAUL JEFFREY [US], et al
- US 7513186 B2 20090407 - RAVID MOSHE [IL], et al
- WO 2014123597 A2 20140814 - TENCATE ADVANCED ARMOR USA INC [US]
- EP 1731870 A1 20061213 - RAFAEL ARMAMENT DEV AUTHORITY [IL]
- EP 2040024 B1 20150318 - RAFAEL ADVANCED DEFENSE SYS [IL]
- EP 3137842 B1 20190102 - RAFAEL ADVANCED DEFENSE SYSTEMS LTD [IL]
- IL 254104 A
- US 2005211086 A1 20050929 - MAYSELESS MEIR [IL]
- US 2010282062 A1 20101111 - SANE AJIT Y [US], et al
- US 2012186437 A1 20120726 - CANNON JOSEPH P [US]
- US 2013213211 A1 20130822 - FISHER MICHAEL L [US]
- US 2014096673 A1 20140410 - ZANK PAUL A [US], et al
- US 2018017358 A1 20180118 - COHEN DAVID [IL]
- US 5070764 A 19911210 - SHEVACH HAIM [IL], et al
- US 5293806 A 19940315 - GONZALEZ RENE G [US]
- US 5577432 A 19961126 - BECKER WILFRIED [DE], et al
- US 7424845 B2 20080916 - ZANK PAUL A [US], et al
- US 7540229 B2 20090602 - SEO YONGSEOK [KR], et al
- US 9032858 B2 20150519 - KELLNER GERD [DE], et al
- EP 2133649 A2 20091216 - KRAUSS MAFFEI WEGMANN GMBH & C [DE]
- US 2009293709 A1 20091203 - JOYNT VERNON P [ZA], et al
- US 2011067561 A1 20110324 - JOYNT VERNON P [ZA]
- US 7987762 B2 20110802 - JOYNT VERNON P [ZA], et al
- US 8091464 B1 20120110 - IMHOLT TIMOTHY J [US], et al
- US 8151686 B2 20120410 - RAVID MOSHE [IL], et al
- US 8336439 B2 20121225 - ST CLAIRE ALEXANDER F [US], et al
- US 9068802 B2 20150630 - CITTERIO FILIPPO [IT], et al
- WO 2008100343 A2 20080821 - RAYTHEON CO [US], et al
- WO 2008153613 A2 20081218 - FORCE PROT TECHNOLOGIES INC [US], et al
- WO 2011053399 A2 20110505 - FORCE PROT TECHNOLOGIES INC [US], et al
- EP 3149427 B1 20190410 - TNO [NL]
- US 7730823 B1 20100608 - FULLERTON LARRY W [US]
- US 8807009 B2 20140819 - DIEHL MATTHEW D [US]
- WO 2006085989 A2 20060817 - ENSIGN BICKFORD AEROSPACE & DE [US], et al
- ES 2704553 T3 20190318 - KRAUSS MAFFEI WEGMANN GMBH & CO KG [DE]
- US 10670375 B1 20200602 - CANNON JOSEPH P [US]
- US 10775136 B2 20200915 - WALKER JAMES D [US], et al
- US 10408578 B2 20190910 - HARMON MATTHEW R [US], et al
- US 2012137867 A1 20120607 - GUHA SUJOY KUMAR [IN], et al
- US 2014318360 A1 20141030 - PEER GREGORY LUCAS [US], et al
- US 7546795 B1 20090616 - MUNSON JR DAVID MURRAY [US]
- EP 2195601 B1 20121128 - RHEINMETALL LANDSYSTEME GMBH [DE]
- EP 2195601 A1 20100616 - RHEINMETALL LANDSYSTEME GMBH [DE]

Citation (search report)

- [Y] DE 102015103935 A1 20160922 - RHEINMETALL LANDSYSTEME GMBH [DE]
- [Y] US 2016169634 A1 20160616 - ARRIGHI PAOLO [IT], et al
- [Y] WO 0216857 A1 20020228 - HAEGGLUNDS VEHICLE AB [SE], et al
- [Y] FR 2990503 A1 20131115 - NEXTER SYSTEMS [FR]
- [YD] EP 2040024 B1 20150318 - RAFAEL ADVANCED DEFENSE SYS [IL]

- [YD] US 7540229 B2 20090602 - SEO YONGSEOK [KR], et al
- [Y] DE 4034401 A1 19920430 - DEUTSCH FRANZ FORSCH INST [FR]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

**EP 4345409 A1 20240403**; WO 2024068117 A1 20240404

DOCDB simple family (application)

**EP 22199203 A 20220930**; EP 2023072076 W 20230809