

Title (en)
FIN STABILISED SUBCALIBRE PROJECTILE

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EP 0300373 B1 19920617 (DE)

Application
EP 88111368 A 19880715

Priority
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• US 7581987 A 19870720

Abstract (en)
[origin: EP0300373A2] The invention relates to a fin-stabilised projectile for use in a rifled tube, which is suitable specially for automatic firearms with a calibre of 12.7 to 70 millimetres. The full spin speed, corresponding to the pitch of the spiral flutes of a specific weapon tube and the muzzle velocity, is transferred to the projectile during firing, use being made of a spin band (36) which is fastened and which forms an integral constituent of the dischargeable sabot (28, 34). After the exit from the muzzle of the weapon, the spin speed of the projectile is rapidly reduced by means of aerodynamic damping, to prevent adverse effects as a result of Magnus forces. The aerodynamic design of the fins is selected so that the projectile reaches a constant spin speed which is at least twice as high as the nutation frequency of the projectile. This adjustment of the spin speed makes it possible to prevent instabilities due to resonance over the entire flight range of the projectile. Firing at full spin speed also generates high centrifugal forces which act on the parts of the sabot (28, 34), thereby ensuring an immediate and accurate detachment of the sabot (28, 34) at the exit of the projectile from the muzzle. This, together with the exact repeatable and reliable adjustment of the projectile spin, allows excellent projectile accuracy and dispersal properties. The invention also relates to the design of the sabot (28, 34) with an integral fixed spin band (36). The design includes the attachment of the sabot (34) to the fin-stabilised projectile (10) by injection moulding with a sealing closure. The absence of a sliding spin band allows a stable design of the sabot which is especially important for ammunition used in automatic weapons. <IMAGE>

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Cited by
WO2022028798A1; EP0999426A1; EP0626558A1; US5481980A; EP0690283A1; FR2721701A1; EP0624774A1; US5388523A; US6324986B1; US6843179B2; WO2004027341A1; DE102015110627A1; WO2017001428A1; WO2021063613A1; US11802755B2; DE102020120850A1; DE102020120850B4

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