Safe-and-Arm Device

Abstract

The present invention describes a safe-and-arm device, mechanism or assembly (160) for a projectile (100,102) equipped with a second-stage propellant (124). The second-stage propellant (124) is ignited after the projectile has been ejected out from a launcher barrel. A lockpin (190), being urged by a spring (194), is responsive to ignition of the second-stage propellant; after the lockpin (190) and spring (194) sense and respond to the second propulsion, an unbalanced rotor (164) forming part of the safe-and-arm device or assembly (160), is released to rotate from a “safe” state to an “armed” state, as the projectile continues traveling along its trajectory to a target. In one embodiment, the projectile is configured with a 40mm cartridge containing a first propellant (122). An impact sensor may trigger an electric detonator or a point detonator may trigger a stab detonator to set off explosives disposed in the projectile.

FIGs. 6A-6C for publication.