

Title (en)  
Pyrotechnic delay tube

Title (de)  
Pyrotechnisches Verzögerungsröhrchen

Title (fr)  
Tube pour retard pyrotechnique

Publication  
**EP 0810416 A3 19990519 (DE)**

Application  
**EP 97108283 A 19970522**

Priority  
DE 29609498 U 19960529

Abstract (en)  
[origin: EP0810416A2] A pyrotechnic delay tube (3) consists of a mechanically initiated detonator (11) and a delay charge (12) located in a sleeve (10) having side vents (15) for the delay charge gases. The novelty is that the sleeve (10) is closed at the burning direction (50) downstream end and has calibrated side bores (15) in this closed end (13) region. Preferably, the bores (15) lie in a single plane (14), are mutually offset by 60 degrees in a star arrangement, are axially spaced by 0.5-1.5 times the delay charge diameter (22) from the closed bottom end (13) on which the charge (12) rests and have a diameter of 0.3-0.5 times the charge diameter.

IPC 1-7  
**F42B 3/16**

IPC 8 full level  
**F42B 3/16** (2006.01); **F42C 19/08** (2006.01)

CPC (source: EP)  
**F42B 3/16** (2013.01)

Citation (search report)

- [XY] AT 396304 B 19930825 - OREGON ETS PATENTVERWERTUNG [LI]
- [Y] DE 1803358 A1 19700514 - MAUSER WERKE AG
- [A] DE 3719648 A1 19881229 - BROSA ERICH [DE]
- [A] US 2516898 A 19500801 - MEISTER LEO T
- [A] US 5379699 A 19950110 - JOHNSEN PAUL T [US], et al

Designated contracting state (EPC)  
DE ES FR GR IT

DOCDB simple family (publication)  
**DE 29609498 U1 19970925**; DE 59708296 D1 20021031; EP 0810416 A2 19971203; EP 0810416 A3 19990519; EP 0810416 B1 20020925; ES 2184004 T3 20030401

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