

F42 AMMUNITION; BLASTING

F42C AMMUNITION FUZES (blasting cartridge initiators F42B 3/10; chemical aspects C06C); **ARMING OR SAFETY MEANS THEREFOR** (filling fuzes F42B 33/02; fitting or extracting primers in or from fuzes F42B 33/04; containers for fuzes F42B 39/30) [5]

FUZE-OPERATING PRINCIPLES

Impact	1/00
Liquid contact	3/00
Fluid pressure.....	5/00
Mechanical force	7/00
Non-electric time fuzes.....	9/00
Electric fuzes.....	11/00
Proximity fuzes.....	13/00
Combination fuzes	9/00

FUZES CHARACTERISED BY THE TYPE

OF AMMUNITION.....	14/00
ARMING OR SAFETY MEANS	15/00
FUZE-SETTING	17/00
OTHER DETAILS.....	19/00
CHECKING, TESTING	21/00
SUBJECT MATTER NOT PROVIDED FOR IN OTHER GROUPS OF THIS SUBCLASS	99/00

1/00 Impact fuzes, i.e. fuzes actuated only by ammunition impact

- 1/02 . with firing pin structurally combined with fuze
- 1/04 . . operating by inertia of members on impact
- 1/06 . . . for any direction of impact
- 1/08 . . with delayed action after ignition of fuze (time fuzes F42C 9/00)
- 1/09 . . the fuze activating a propulsive charge for propelling the ammunition or the warhead into the air, e.g. in rebounding projectiles [5]
- 1/10 . without firing pin
- 1/12 . . with delayed action after ignition of fuze (time fuzes F42C 9/00)
- 1/14 . operating at a predetermined distance from ground or target by means of a protruding member

3/00 Fuzes actuated by exposure to a liquid, e.g. sea-water (F42C 5/00 takes precedence; time fuzes F42C 9/00)

5/00 Fuzes actuated by exposure to a predetermined ambient fluid pressure

- 5/02 . barometric pressure

7/00 Fuzes actuated by application of a predetermined mechanical force, e.g. tension, torsion, pressure (by ammunition impact F42C 1/00; by exposure to a predetermined ambient fluid pressure F42C 5/00)

- 7/02 . Contact fuzes, i.e. fuzes actuated by mechanical contact between a stationary ammunition, e.g. a land mine, and a moving target, e.g. a person (F42C 7/12 takes precedence)
- 7/04 . . actuated by applying pressure on the ammunition head [5]
- 7/06 . . . and comprising pneumatic or hydraulic retarding means [5]
- 7/08 . . of release type, i.e. actuated by releasing pressure from the ammunition head [5]
- 7/10 . . of antenna type [5]
- 7/12 . Percussion fuzes of the double-action type, i.e. fuzes cocked and fired in a single movement, e.g. by pulling an incorporated percussion pin or hammer (percussion caps F42C 19/10) [5]

9/00 Time fuzes; Combined time- and percussion- or pressure-actuated fuzes; Fuzes for timed self-destruction of ammunition

- 9/02 . the timing being caused by mechanical means

- 9/04 . . by spring motor

- 9/06 . . by flow of fluent material, e.g. shot, fluids

- 9/08 . the timing being caused by chemical action, e.g. of acids

- 9/10 . the timing being caused by combustion

- 9/12 . . with ring combustion elements

- 9/14 . Double fuzes; Multiple fuzes

- 9/16 . . for self-destruction of ammunition

- 9/18 . . . when the spin rate falls below a predetermined limit, e.g. a spring force being stronger than the locking action of a centrifugally-operated lock [5]

11/00 Electric fuzes (proximity fuzes F42C 13/00; electric igniters F42C 19/12)

- 11/02 . with piezo-crystal

- 11/04 . with current induction

- 11/06 . with time delay by electric circuitry

13/00 Proximity fuzes; Fuzes for remote detonation

- 13/02 . operated by intensity of light or similar radiation

- 13/04 . operated by radio waves

- 13/06 . operated by sound waves

- 13/08 . operated by variations in magnetic field

14/00 Fuzes characterised by the ammunition class or type (F42C 1/00, F42C 13/00, F42C 15/00 take precedence) [5]

- 14/02 . for hand grenades [5]

- 14/04 . for torpedoes, marine mines or depth charges (influenced marine mines F42B 22/04) [5]

- 14/06 . for fall bombs [5]

- 14/08 . for land mines [5]

15/00 Arming-means in fuzes; Safety means for preventing premature detonation of fuzes or charges

- 15/16 . wherein the firing pin is displaced out of the action line for safety (F42C 15/40 takes precedence)

- 15/18 . wherein a carrier for an element of the pyrotechnic or explosive train is moved (F42C 15/40 takes precedence) [5]

- 15/184 . . using a slidable carrier [5]

- 15/188 . . using a rotatable carrier [5]

- 15/192 . . . rotatable in a plane which is parallel to the longitudinal axis of the projectile [5]

F42C

- 15/196 by the action of centrifugal or inertia forces on the carrier body, e.g. the carrier having eccentrically mounted weights or eccentric centre of gravity [5]
- 15/20 . . wherein a securing-pin or latch is removed to arm the fuze, e.g. removed from the firing pin (F42C 15/40 takes precedence)
- 15/21 . . using spring action (F42C 15/23 takes precedence) [5]
- 15/22 . . using centrifugal force (F42C 15/23 takes precedence)
- 15/23 . . by unwinding a flexible ribbon or tape [5]
- 15/24 . . wherein the safety or arming action is effected by inertia means (F42C 15/196, F42C 15/20 take precedence)
- 15/26 . . using centrifugal force
- 15/28 . . operated by flow of fluent material, e.g. shot, fluids (F42C 15/26 takes precedence)
- 15/285 . . stored within the fuze housing [5]
- 15/29 . . operated by fluidic oscillators; operated by dynamic fluid pressure, e.g. ram-air operated [5]
- 15/295 . . operated by a turbine or a propeller; Mounting means therefor [5]
- 15/30 . . of propellant gases, i.e. derived from propulsive charge or rocket motor
- 15/31 . . generated by the combustion of a pyrotechnic or explosive charge within the fuze [5]
- 15/32 . . operated by change of fluid pressure (F42C 5/00, F42C 15/29 take precedence)
- 15/33 . . by breaking a vacuum or pressure container [5]
- 15/34 . . wherein the safety or arming action is effected by a blocking-member in the pyrotechnic or explosive train between primer and main charge (F42C 15/18, F42C 15/40 take precedence)
- 15/36 . . wherein arming is effected by combustion or fusion of an element (F42C 15/31 takes precedence)

- 15/38 . . wherein arming is effected by chemical action (F42C 3/00 takes precedence)
- 15/40 . . wherein the safety or arming action is effected electrically
- 15/42 . . from a remote location, e.g. for controlled mines or mine fields [5]
- 15/44 . . Arrangements for disarming, or for rendering harmless, fuzes after arming, e.g. after launch [5]
- 17/00 Fuze-setting apparatus**
- 17/02 . . Fuze-setting keys
- 17/04 . . for electric fuzes [5]
- 19/00 Details of fuzes (other parts F42C 15/00)**
- 19/02 . . Fuze bodies; Fuze housings
- 19/04 . . Protective caps
- 19/06 . . Electric contact parts specially adapted for use with electric fuzes
- 19/07 Nose-contacts for projectiles or missiles [5]
- 19/08 . . Primers (initiators for blasting cartridges F42B 3/10); Detonators
- 19/085 Primers for caseless ammunition [5]
- 19/09 Primers or detonators containing a hollow charge [5]
- 19/095 Arrangement of a multiplicity of primers or detonators, dispersed around a warhead, one of the primers or detonators being selected for directional detonation effects [5]
- 19/10 Percussion caps
- 19/12 electric
- 19/14 operable also in the percussion mode [5]
- 21/00 Checking fuzes; Testing fuzes**
- 99/00 Subject matter not provided for in other groups of this subclass [8]**