CPC COOPERATIVE PATENT CLASSIFICATION

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)

F42C 1/00 **Impact fuzes, i.e. fuzes actuated only by ammunition impact**

F42C 1/02 . with firing-pin structurally combined with fuze

F42C 1/04 . . operating by inertia of members on impact

F42C 1/06 . . . for any direction of impact {(electric contact parts F42C 19/06)}

F42C 1/08 . . with delayed action after ignition of fuze (time fuzes F42C 9/00) {or after impact}

F42C 1/09 . . the fuze activating a propulsive charge for propelling the ammunition or the warhead into the air, e.g. in rebounding projectiles

F42C 1/10 . without firing-pin

F42C 1/12 . . with delayed action after ignition of fuze (time fuzes F42C 9/00)

F42C 1/14 . operating at a predetermined distance from ground or target by means of a protruding member

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

F42C 5/00 **Fuzes actuated by exposure to a predetermined ambient fluid pressure {(Fluid-pressure-operated switches H01H 35/24)}**

F42C 5/02 . barometric pressure

F42C 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 predeterminded ambient fluid pressure F42C 5/00)

F42C 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)

F42C 7/04 . . actuated by applying pressure on the ammunition head

F42C 7/06 . . . and comprising pneumatic or hydraulic retarding means

F42C 7/08 . . of release type, i.e. actuated by releasing pressure from the ammunition head

F42C 7/10 . . of antenna type

F42C 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)

F42C 9/00 **Time fuzes; Combined time and percussion or pressure-actuated fuzes; Fuzes for timed self-destruction of ammunition**

F42C 9/02 . the timing being caused by mechanical means

F42C 9/04 . . by spring motor {(F42C 9/141 takes precedence; housings for fuzes specially adapted for winding or setting F42C 19/02)}

F42C 9/041 . . . {the clockwork activating a security device, e.g. for unlocking the firing-pin}

F42C 9/043 . . . . {and the firing-pin being activated by impact}

F42C 9/045 . . . . {and the firing-pin being activated by a spring}

F42C 9/046 . . . . . {and the activating spring being the spring of the clock-work mechanism}

F42C 9/048 . . . {Unlocking of clockwork mechanisms, e.g. by inertia or centrifugal forces; Means for disconnecting the clockwork mechanism from the setting mechanism}

F42C 9/06 . . by flow of fluent material, e.g. shot, fluids

F42C 9/08 . the timing being caused by chemical action, e.g. of acids {(F42C 9/14 takes precedence)}

F42C 9/10 . the timing being caused by combustion {(F42C 9/14 takes precedence)}

F42C 9/12 . . with ring combustion elements

F42C 9/14 . Double fuzes; Multiple fuzes

F42C 9/141 . . {Impact fuze in combination with a clockwork time fuze}

F42C 9/142 . . {combined time and percussion fuzes in which the timing is caused by combustion}

F42C 9/144 . . . {with ring or spiral combustion elements}

F42C 9/145 . . {combined time and percussion fuzes in which the timing is caused by chemical reaction}

F42C 9/147 . . {Impact fuze in combination with electric time fuze}

F42C 9/148 . . {Proximity fuzes in combination with other fuzes}

F42C 9/16 . . for self-destruction of ammunition {(F42C 9/141 to F42C 9/148 take precedence)}

F42C 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

F42C 11/00 **Electric fuzes** ({in combination with other fuzes F42C 9/14}; proximity fuzes F42C 13/00; {safety or arming effected by electric means F42C 15/40; electric contact parts for fuzes F42C 19/06}; electric igniters F42C 19/12, {F42B 3/12 to F42B 3/18; optical initiators F42B 3/113})

F42C 11/001 . {Electric circuits for fuzes characterised by the ammunition class or type (F42C 11/02 to F42C 11/06 take precedence; mechanical fuzes having electric igniters for hand grenades or marine warheads F42C 14/025, F42C 14/045)}

F42C 11/002 . . {Smart ammunition fuzes, i.e. having an integrated scanning, guiding and firing system}

F42C 11/003 . . {for hand grenades}

F42C 11/005 . . {for marine warheads, e.g. torpedoes, mines, depth charges}

F42C 11/006 . . {for fall bombs}

F42C 11/007 . . {for land mines}

F42C 11/008 . {Power generation in electric fuzes (F42C 11/02, F42C 11/04 and F42C 15/295 take precedence)}

F42C 11/02 . with piezo-crystal

F42C 11/04 . with current induction

F42C 11/06 . with time delay by electric circuitry

F42C 11/065 . . {Programmable electronic delay initiators in projectiles}

F42C 13/00 **Proximity fuzes; Fuzes for remote detonation {**(F42C 9/148 takes precedence; constructional details F42C 19/00; mounting of antennas F42B 30/006)**}**

F42C 13/003 . {operated by variations in electrostatic field}

F42C 13/006 . {for non-guided, spinning, braked or gravity-driven weapons, e.g. parachute-braked sub-munitions}

F42C 13/02 . operated by intensity of light or similar radiation

F42C 13/023 . . {using active distance measurement}

F42C 13/026 . . {Remotely actuated projectile fuzes operated by optical transmission links}

F42C 13/04 . operated by radio waves

F42C 13/042 . . {based on distance determination by coded radar techniques}

F42C 13/045 . . {using tranmission of F.M. waves}

F42C 13/047 . . {Remotely actuated projectile fuzes operated by radio transmission links}

F42C 13/06 . operated by sound waves

F42C 13/08 . operated by variations in magnetic field

F42C 14/00 **{Mechanical} fuzes characterised by the ammunition class or type** (F42C 1/00, {F42C 7/00, F42C 9/00, F42C 11/001}, F42C 13/00, F42C 15/00 take precedence)

F42C 14/02 . for hand grenades

F42C 14/025 . . {having electric igniters}

F42C 14/04 . for torpedoes, marine mines or depth charges (influenced marine mines F42B 22/04)

F42C 14/045 . . {having electric igniters}

F42C 14/06 . for fall bombs

F42C 14/08 . for land mines

F42C 15/00 **Arming-means in fuzes; Safety means for preventing premature detonation of fuzes or charges**

F42C 15/005 . {Combination-type safety mechanisms i.e. two or more safeties are moved in a predetermined sequence to each other}

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

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

F42C 15/184 . . using a slidable carrier

F42C 15/188 . . using a rotatable carrier

F42C 15/192 . . . rotatable in a plane which is parallel to the longitudinal axis of the projectile

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

F42C 15/20 . wherein a securing-pin or latch is removed to arm the fuze, e.g. removed from the firing-pin ({F42C 9/041 and} F42C 15/40 take precedence)

F42C 15/21 . . using spring action (F42C 15/32 takes precedence)

F42C 15/22 . . using centrifugal force (F42C 15/23 takes precedence)

F42C 15/23 . . by unwinding a flexible ribbon or tape

F42C 15/24 . wherein the safety or arming action is effected by inertia means (F42C 15/196, F42C 15/20 take precedence)

F42C 15/26 . . using centrifugal force

F42C 15/28 . operated by flow of fluent material, e.g. shot, fluids (F42C 15/26 takes precedence)

F42C 15/285 . . stored within the fuze housing

F42C 15/29 . . operated by fluidic oscillators; operated by dynamic fluid pressure, e.g. ram-air operated

F42C 15/295 . . operated by a turbine or a propeller; Mounting means therefor

F42C 15/30 . . of propellant gases, i.e. derived from propulsive charge or rocket motor

F42C 15/31 . . generated by the combustion of a pyrotechnic or explosive charge within the fuze

F42C 15/32 . operated by change of fluid pressure (F42C 5/00, F42C 15/29 take precedence)

F42C 15/33 . . by breaking a vacuum or pressure container

F42C 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)

F42C 15/36 . wherein arming is effected by combustion or fusion of an element; {Arming methods using temperature gradients} (F42C 15/31 takes precedence)

F42C 15/38 . wherein arming is effected by chemical action (F42C 3/00 takes precedence)

F42C 15/40 . wherein the safety or arming action is effected electrically

F42C 15/42 . . from a remote location, e.g. for controlled mines or mine fields

F42C 15/44 . Arrangements for disarming, or for rendering harmless, fuzes after arming, e.g. after launch

F42C 17/00 **Fuze-setting apparatus**

F42C 17/02 . Fuze-setting keys

F42C 17/04 . for electric fuzes

F42C 19/00 **Details of fuzes** (except F42C 15/00)

F42C 19/02 . Fuze bodies; Fuze housings

F42C 19/04 . Protective caps

F42C 19/06 . Electric contact parts specially adapted for use with electric fuzes {(switches operated by change of speed H01H 35/06; switches operated by change of acceleration, e.g. shock or vibration, inertia switches H01H 35/14; fluid-pressure-operated switches H01H 35/24)}

F42C 19/07 . . Nose-contacts for projectiles or missiles

F42C 19/08 . Primers (initiators for blasting cartridges F42B 3/10; ignition means for rocket engine plants F02K 9/95); Detonators

F42C 19/0803 . . {characterised by the combination of per se known chemical composition in the priming substance}

F42C 19/0807 . . {characterised by the particular configuration of the transmission channels from the priming energy source to the charge to be ignited, e. g. multiple channels, nozzles, diaphragms or filters}

F42C 19/0811 . . {characterised by the generation of a plasma for initiating the charge to be ignited}

F42C 19/0815 . . {Intermediate ignition capsules, i.e. self-contained primary pyrotechnic module transmitting the initial firing signal to the secondary explosive, e.g. using electric, radio frequency, optical or percussion signals to the secondary explosive (initiators for blasting cartridges or air bags F42B 3/10)}

F42C 19/0819 . . {Primers or igniters for the initiation of rocket motors, i.e. pyrotechnical aspects thereof}

F42C 19/0823 . . {Primers or igniters for the initiation or the propellant charge in a cartridged ammunition (primers for caseless ammunition F42C 19/085)}

F42C 19/0826 . . . {comprising an elongated perforated tube, i.e. flame tube, for the transmission of the initial energy to the propellant charge, e.g. used for artillery shells and kinetic energy penetrators}

F42C 19/083 . . . {characterised by the shape and configuration of the base element embedded in the cartridge bottom, e.g. the housing for the squib or percussion cap}

F42C 19/0834 . . . {Arrangements of a multiplicity of primers or detonators dispersed within a propellant charge for increased efficiency}

F42C 19/0838 . . {Primers or igniters for the initiation or the explosive charge in a warhead (F42C 19/095 takes precedence)}

F42C 19/0842 . . . {Arrangements of a multiplicity of primers or detonators, dispersed within a warhead, for multiple mode selection}

F42C 19/0846 . . . {Arrangements of a multiplicity of primers or detonators, dispersed within a warhead, for increased efficiency}

F42C 19/085 . . Primers for caseless ammunition

F42C 19/09 . . Primers or detonators containing a hollow charge

F42C 19/095 . . Arrangements of a multiplicity of primers or detonators, dispersed around a warhead, one of the primers or detonators being selected for directional detonation effects

F42C 19/10 . . Percussion caps

F42C 19/12 . . electric

F42C 19/14 . . . operable also in the percussion mode

F42C 21/00 Checking fuzes; Testing fuzes

F42C 99/00 Subject matter not provided for in other groups of this subclass