

SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING

F41 WEAPONS

Note(s)

1. This class covers also means for practice and training which may have aspects of simulation, e.g. in apparatus for so-called "military games", although simulators are generally covered by class G09.
2. In this class, the following terms or expressions are used with the meanings indicated:
 - "smallarm" means a firearm which is generally held with one or both hands for firing, but this term also includes a light machine-gun which may be supported on a tripod or the like during firing;
 - "gun" means any weapon having a barrel and a trigger or firing mechanism for projecting a missile; it may be a piece of ordnance or a smallarm. It may use combustible or explosive propellant charges, air pressure, electromagnetism or other propulsive forces;
 - "revolver-type gun" means a gun having a revolving drum magazine, the chambers of which are used successively as firing chamber;
 - "revolver" means a revolver-type pistol;
 - "semi-automatic firearm" means a firearm from which one shot is fired after actuation of the trigger and which then returns to a condition for firing a subsequent shot upon renewed actuation of the trigger;
 - "automatic firearm" means a firearm which will continue firing so long as the initial firing pressure is maintained on the trigger;
 - "sighting" means bringing into visual coincidence a direction defined by a so-called "sighting" device with the direction of a target;
 - "aiming" means bringing a weapon to a direction differing from the sighting direction by corrections in order that the projectile may hit the target;
 - "laying" means setting a weapon in the correct position for hitting a target.
3. Attention is drawn to the definitions of "projectile", "missile" and "rocket" given in Note (2) following the title of class F42.

F41A FUNCTIONAL FEATURES OR DETAILS COMMON TO BOTH SMALLARMS AND ORDNANCE, e.g. CANNONS; MOUNTINGS FOR SMALLARMS OR ORDNANCE [5]

Note(s)

1. This subclass covers those features or details which are considered to be of a kind generally applicable to, or to be concerned with intrinsic functions common to, both smallarms and ordnance.
2. Such features or details are classified in this subclass, even if they are stated to be applied only to smallarms or only to ordnance.
3. Attention is drawn to the definitions given in Note (2) following the title of class F41.

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1/00 Missile propulsion characterised by the use of

explosive or combustible propellant charges

- (projecting missiles without use of explosive or combustible propellant charge F41B; launching rockets or torpedoes F41F 3/00; missile self-propulsion F42B 15/00) [5]
- 1/02 • Hypervelocity missile propulsion using successive means for increasing the propulsive force, e.g. using successively initiated propellant charges arranged along the barrel length; Multistage missile propulsion [5]
- 1/04 • Missile propulsion using the combustion of a liquid or gaseous fuel, e.g. hypergolic fuel [5]
- 1/06 • Adjusting the range without varying elevation angle or propellant charge data, e.g. by venting a part of the propulsive charge gases, or by adjusting the capacity of the cartridge or combustion chamber [5]
- 1/08 • Recoilless guns, i.e. guns having propulsion means producing no recoil [5]
- 1/10 • a counter projectile being used to balance recoil [5]
- 3/00 Breech mechanism, e.g. locks [5]**
- 3/02 • Block action, i.e. the main breech opening movement being transverse to the barrel axis [5]
- 3/04 • • with pivoting breech-block [5]
- 3/06 • • • about a horizontal axis transverse to the barrel axis at the rear of the block (F41A 3/08 takes precedence) [5]
- 3/08 • • • carrying a rotably mounted obturating plug of the screw-thread or the interrupted-thread type (F41A 3/30 takes precedence) [5]
- 3/10 • • with sliding breech-block, e.g. vertically [5]
- 3/12 • Bolt action, i.e. the main breech opening movement being parallel to the barrel axis [5]
- 3/14 • • Rigid bolt locks, i.e. having locking elements rigidly mounted on the bolt or bolt handle and on the barrel or breech-housing respectively [5]
- 3/16 • • • the locking elements effecting a rotary movement about the barrel axis, e.g. rotating cylinder bolt locks [5]
- 3/18 • • • • hand-operated [5]
- 3/20 • • • • Straight-pull operated bolt locks, i.e. the operating hand effecting only a straight movement parallel to the barrel axis [5]
- 3/22 • • • • the locking being effected by rotating the operating handle or lever transversely to the barrel axis [5]
- 3/24 • • • • • the locking elements forming part of the operating handle or lever [5]
- 3/26 • • • • semi-automatically or automatically operated, e.g. having a slidable bolt-carrier and a rotatable bolt [5]
- 3/28 • • • • • having fixed locking elements on the non-rotating bolt and rotating locking elements mounted on the barrel or breech housing, e.g. rotatable rings [5]
- 3/30 • • • • Interlocking means, e.g. locking lugs, screw threads [5]
- 3/32 • • • the bolt being rocked about a notional axis transverse to the barrel axis [5]
- 3/34 • • • the bolt additionally effecting a sliding movement transverse to the barrel axis [5]
- 3/36 • • Semi-rigid bolt locks, i.e. having locking elements movably mounted on the bolt or on the barrel or breech housing [5]
- 3/38 • • • having rocking locking elements, e.g. pivoting levers or vanes [5]
- 3/40 • • • • mounted on the bolt (F41A 3/42 takes precedence) [5]
- 3/42 • • • • hand-operated [5]
- 3/44 • • • having sliding locking elements, e.g. balls, rollers [5]
- 3/46 • • • • mounted on the bolt (F41A 3/48 takes precedence) [5]
- 3/48 • • • • hand-operated [5]
- 3/50 • • • Toggle-joint locks, e.g. crank-operated [5]
- 3/52 • • • • hand-operated [5]
- 3/54 • • Bolt locks of the unlocked type, i.e. being inertia operated [5]
- 3/56 • • • the bolt being provided with an additional slidable mass [5]
- 3/58 • Breakdown breech mechanisms, e.g. for shotguns [5]
- 3/60 • Breech mechanisms for guns having two or more barrels (F41A 3/58 takes precedence; for revolving-cannon guns F41F 1/10) [5]
- 3/62 • using combustion gas pressure for adding to the mechanical locking action, or for delaying breech opening movement [5]
- 3/64 • Mounting of breech-blocks; Accessories for breech-blocks or breech-block mountings [5]
- 3/66 • • Breech housings or frames; Receivers [5]
- 3/68 • • Bolt stops, i.e. means for limiting bolt opening movement [5]
- 3/70 • • Anti-rebound arrangements, i.e. preventing rebound of the bolt out of the firing position [5]
- 3/72 • • Operating handles or levers; Mounting thereof in breech-blocks or bolts [5]
- 3/74 • • Obturating or packing devices for gas leak prevention in breech mechanisms [5]
- 3/76 • • • specially adapted for sealing the gap between the forward end of the cartridge chamber and the rearward end of the barrel, e.g. sealing devices for revolvers or revolver-type guns [5]
- 3/78 • • Bolt buffer or recuperator means [5]
- 3/80 • • • Adjustable spring buffers [5]
- 3/82 • • • Coil spring buffers (F41A 3/80 takes precedence) [5]
- 3/84 • • • • mounted within the gun stock [5]
- 3/86 • • • • mounted under the barrel [5]
- 3/88 • • • • mounted around the barrel [5]
- 3/90 • • • Fluid buffers [5]
- 3/92 • • • • adjustable [5]
- 3/94 • • • • in combination with spring buffers [5]
- 5/00 Mechanisms or systems operated by propellant charge energy for automatically opening the lock [5]**
- 5/02 • recoil-operated [5]
- 5/04 • • the barrel being tilted during recoil [5]
- 5/06 • • the barrel being rotated about its longitudinal axis during recoil [5]
- 5/08 • • having an accelerator lever acting on the breech-block or bolt during the opening movement [5]
- 5/10 • • having a movable inertia weight [5]
- 5/12 • • • mounted in a gun having a fixed barrel [5]
- 5/14 • • Barrel stops, i.e. devices for holding the recoiling barrel in a predetermined position, e.g. the recoil position [5]
- 5/16 • • having a barrel moving forwardly after the firing of a shot [5]
- 5/18 • gas-operated [5]
- 5/20 • • using a gas piston arranged concentrically around the barrel [5]
- 5/22 • • having two or more gas pistons [5]
- 5/24 • • by direct action of gas pressure on bolt or locking elements [5]

- 5/26 • • Arrangements or systems for bleeding the gas from the barrel (F41A 5/20-F41A 5/24 take precedence) [5]
- 5/28 • • • Adjustable systems [5]
- 5/30 • Gas- or recoil-operation, e.g. selection of gas- or recoil-operated systems [5]
- 5/32 • Energy accumulator systems, i.e. systems for opening the breech-block by energy accumulated during barrel or gas piston recoil [5]
- 5/34 • • with spring accumulators [5]
- 5/36 • • with fluid accumulators [5]
- 7/00 Auxiliary mechanisms for bringing the breech-block or bolt or the barrel to the starting position before automatic firing** (operating handles or levers F41A 3/00); **Drives for externally-powered guns** (revolving-cannon guns F41F 1/00); **Remote-controlled gun chargers** [5]
- 7/02 • Machine-gun rechargers, e.g. manually operated [5]
- 7/04 • • fluid operated [5]
- 7/06 • • electrically operated [5]
- 7/08 • Drives for externally-powered guns, i.e. drives for moving the breech-block or bolt by an external force during automatic firing [5]
- 7/10 • • using a rotating cylindrical drum having a camming groove [5]
- 9/00 Feeding or loading of ammunition** (adaptations for feeding or loading missiles from magazines in air guns F41B 11/02); **Magazines; Guiding means for the extracting of cartridges** (cartridge extractors or ejectors F41A 15/00) [5]
- 9/01 • Feeding of unbelted ammunition [5]
- 9/02 • • using wheel conveyers, e.g. star-wheel-shaped conveyers [5]
- 9/03 • • using screw or rotary-spiral conveyers [5]
- 9/04 • • using endless-chain belts carrying a plurality of ammunition [5]
- 9/05 • • • in tandem sequence [5]
- 9/06 • • using cyclically moving conveyers, i.e. conveyers having ammunition pusher or carrier elements which are emptied or disengaged from the ammunition during the return stroke [5]
- 9/07 • • • Reciprocating conveyers, i.e. conveyers pushing a plurality of ammunition during the feeding stroke [5]
- 9/09 • • • Movable ammunition carriers or loading trays, e.g. for feeding from magazines [5]
- 9/10 • • • • pivoting or swinging [5]
- 9/11 • • • • • in a horizontal plane [5]
- 9/12 • • • • • • mounted within a smallarm [5]
- 9/13 • • • • • • in a vertical plane [5]
- 9/14 • • • • • • transverse to the barrel axis [5]
- 9/15 • • • • • • • mounted within a smallarm [5]
- 9/16 • • • • • • • parallel to the barrel axis [5]
- 9/17 • • • • • • • • mounted within a smallarm [5]
- 9/18 • • • • • • • • feeding from a magazine under the barrel [5]
- 9/19 • • • • • • • • feeding from a magazine mounted in the stock [5]
- 9/20 • • • • • sliding, e.g. reciprocating [5]
- 9/21 • • • • • • in a vertical direction (F41A 9/23 takes precedence) [5]
- 9/22 • • • • • • in a horizontal direction (F41A 9/23 takes precedence) [5]
- 9/23 • • • • • • • mounted within a smallarm [5]
- 9/24 • • using a movable magazine or clip as feeding element [5]
- 9/25 • • • using a sliding clip [5]
- 9/26 • • • using a revolving drum magazine [5]
- 9/27 • • • • in revolver-type guns [5]
- 9/28 • • • • • of smallarm type (in revolvers F41C 3/14) [5]
- 9/29 • Feeding of belted ammunition [5]
- 9/30 • • Sprocket-type belt transporters [5]
- 9/31 • • • with cartridge stripping means [5]
- 9/32 • • Reciprocating-slide-type belt transporters [5]
- 9/33 • • • with cartridge stripping means [5]
- 9/34 • • from magazines (magazines for belted ammunition *per se* F41A 9/79) [5]
- 9/35 • Feeding multibarrel guns [5]
- Note(s)**
- Feeding elements or concepts of general interest, not specially adapted for feeding multibarrel guns, are classified in groups F41A 9/01 or F41A 9/29.
- 9/36 • • Feed mechanisms for revolving-cannon guns [5]
- 9/37 • Feeding two or more kinds of ammunition to the same gun; Feeding from two sides [5]
- Note(s)**
- Feeding elements or concepts of general interest, not specially adapted for feeding two or more kinds of ammunition or from two sides, are classified in groups F41A 9/01 or F41A 9/29.
- 9/38 • Loading arrangements, i.e. for bringing the ammunition into the firing position [5]
- 9/39 • • Ramming arrangements [5]
- 9/40 • • • the breech-block itself being the rammer [5]
- 9/41 • • • • pushing unbelted ammunition from a box magazine on the gun frame into the cartridge chamber [5]
- 9/42 • • • Rammers separate from breech-block [5]
- 9/43 • • • • Chain rammers [5]
- 9/44 • • • • Fluid-operated piston rammers [5]
- 9/45 • • the cartridge chamber or the barrel as a whole being tiltable between a loading and a firing position [5]
- 9/46 • • the cartridge chamber being formed by two complementary elements, movable one relative to the other for loading [5]
- 9/47 • • using forwardly-sliding barrels or barrel parts for loading [5]
- 9/48 • • by gravitational force [5]
- 9/49 • Internally-powered drives, i.e. operated by propellant charge energy, e.g. couplings, clutches, energy accumulators [5]
- 9/50 • External power or control systems [5]
- 9/51 • • Boosters, i.e. externally-powered motors [5]
- 9/52 • Arrangements for changing from automatic or magazine-loading to hand-loading [5]
- 9/53 • Charged-condition indicators, i.e. indicating the presence of a cartridge in the cartridge chamber [5]
- 9/54 • Cartridge guides, stops or positioners, e.g. for cartridge extraction [5]
- 9/55 • • Fixed guiding means, mounted on, or near, the cartridge chamber [5]
- 9/56 • • Movable guiding means [5]
- 9/57 • • • Flexible chutes, e.g. for guiding belted ammunition from the magazine to the gun [5]
- 9/58 • • Cartridge stops; Cartridge positioners [5]
- 9/59 • Ejectors for clips or magazines, e.g. when empty [5]

F41A

- 9/60 • Empty-cartridge-case or belt-link collectors or catchers (F41A 9/81 takes precedence) [5]
- 9/61 • Magazines [5]
- 9/62 • • having means for indicating the number of cartridges left in the magazine, e.g. last-round indicators (last-round safeties F41A 17/40) [5]
- 9/63 • • specially adapted for releasable connection with other magazines [5]
- 9/64 • • for unbelted ammunition [5]
- 9/65 • • • Box magazines having a cartridge follower [5]
- 9/66 • • • • Arrangements thereon for charging, i.e. reloading (apparatus or tools for reloading magazines F41A 9/83) [5]
- 9/67 • • • • • having means for depressing the cartridge follower, or for locking it in a depressed position [5]
- 9/68 • • • • Plural magazines, e.g. tandem magazines [5]
- 9/69 • • • • characterised by multiple-row or zigzag arrangement of cartridges [5]
- 9/70 • • • • Arrangements thereon for discharging, e.g. cartridge followers or discharge throats [5]
- 9/71 • • • • Arrangements thereon for varying capacity; Adapters or inserts for changing cartridge size or type [5]
- 9/72 • • • Tubular magazines, i.e. magazines containing the ammunition in lengthwise tandem sequence [5]
- 9/73 • • • Drum magazines [5]
- 9/74 • • • • with radially disposed cartridges [5]
- 9/75 • • • • having a spiral cartridge channel [5]
- 9/76 • • • Magazines having an endless-chain conveyer [5]
- 9/77 • • • Magazines having a screw conveyer [5]
- 9/78 • • • Magazines having a reciprocating conveyer [5]
- 9/79 • • for belted ammunition [5]
- 9/80 • • • having provision for quick-coupling of the belts of adjacent magazines [5]
- 9/81 • • • having provision for collecting belt links or empty cartridge cases [5]
- 9/82 • Reloading of magazines [5]
- 9/83 • • Apparatus or tools for reloading magazines with unbelted ammunition, e.g. cartridge clips [5]
- 9/84 • • • Clips [5]
- 9/85 • • • • for reloading revolver-type magazines [5]
- 9/86 • • Feeding belted ammunition into magazines [5]
- 9/87 • Ammunition handling dollies or transfer carts (F41A 9/86 takes precedence) [5]
- 11/00 Assembly or disassembly features; Modular concepts; Articulated or collapsible guns** (F41A 3/64, F41A 19/10-F41A 19/15, F41A 21/48, F41A 25/26 take precedence) [5]
- 11/02 • Modular concepts, e.g. weapon-family concepts [5]
- 11/04 • Articulated or collapsible guns, i.e. with hinged or telescopic parts for transport or storage (breakdown shotguns or rifles F41C 7/11; folding or telescopic stocks or stock parts F41C 23/04) [5]
- 11/06 • • Telescopic guns [5]
- 13/00 Cooling or heating systems** (barrels or gun tubes with fins or ribs F41A 21/00); **Blowing-through of gun barrels; Ventilating systems** [5]
- 13/02 • Heating systems [5]
- 13/04 • Injecting fluids into barrels or cartridge chambers (F41A 13/08 takes precedence) [5]
- 13/06 • Evacuating combustion gas from barrels (F41A 13/10 takes precedence) [5]
- 13/08 • • Bore evacuators, i.e. chambers disposed around barrels for storing part of the combustion gas and subsequently injecting it into the barrel to provide suction [5]
- 13/10 • Blowers or turbines for evacuating or cooling guns, e.g. driven by combustion gas pressure or recoil [5]
- 13/12 • Systems for cooling the outer surface of the barrel (F41A 13/10 takes precedence) [5]
- 15/00 Cartridge extractors, i.e. devices for pulling cartridges or cartridge cases at least partially out of the cartridge chamber; Cartridge ejectors, i.e. devices for throwing the extracted cartridges or cartridge cases free of the gun** (F41A 9/54 takes precedence) [5]
- 15/02 • for revolver-type guns, e.g. revolvers [5]
- 15/04 • specially adapted for cartridge cases being deformed when fired, e.g. of plastics [5]
- 15/06 • for breakdown guns [5]
- 15/08 • for block-action guns [5]
- 15/10 • • of sliding-block type [5]
- 15/12 • for bolt-action guns [5]
- 15/14 • • the ejector being mounted on, or within, the bolt [5]
- 15/16 • • the ejector being mounted on the breech housing or frame [5]
- 15/18 • for guns with forwardly slidable barrels [5]
- 15/20 • specially adapted for caseless-ammunition duds [5]
- 15/22 • Tools for extracting cartridges [5]
- 17/00 Safety arrangements, e.g. safeties** [5]
- 17/02 • Key-operated safeties [5]
- 17/04 • Safeties of the combination-lock type (F41A 17/02 takes precedence) [5]
- 17/06 • Electric or electromechanical safeties (F41A 17/04, F41A 17/08 take precedence) [5]
- 17/08 • for inhibiting firing in a specified direction, e.g. at a friendly person or at a protected area (F41A 27/02 takes precedence) [5]
- 17/10 • • Firing mechanisms with elevation stop [5]
- 17/12 • • Firing mechanisms with anti-canting safety [5]
- 17/14 • Double-loading prevention [5]
- 17/16 • Cook-off prevention, i.e. prevention of spontaneous firing of a cartridge by chamber wall heat [5]
- 17/18 • Hang-fire prevention [5]
- 17/20 • Grip or stock safeties, i.e. safeties disengaged by clasping the grip or stock (thumb-operated sliding safeties F41A 17/52, F41A 17/62, F41A 17/70, F41A 17/80) [5]
- 17/22 • • acting on the trigger [5]
- 17/24 • • acting on the firing pin [5]
- 17/26 • • acting on the hammer [5]
- 17/28 • • acting on the sear [5]
- 17/30 • Multiple safeties, i.e. safeties acting on at least one element of the firing mechanism and at least one other element of the gun, e.g. the moving barrel [5]
- 17/32 • • the other element being the breech-block or bolt [5]
- 17/34 • Magazine safeties [5]
- 17/36 • • locking the gun in a safety condition when the magazine is empty or removed [5]
- 17/38 • • locking the magazine in the gun [5]
- 17/40 • Last-round safeties (F41A 17/34 takes precedence) [5]
- 17/42 • Safeties for locking the breech-block or bolt in a safety position (F41A 17/32, F41A 17/36, F41A 17/40 take precedence) [5]

- 17/44 • Safety plugs, e.g. for plugging-up cartridge chambers [5]
- 17/46 • Trigger safeties, i.e. means for preventing trigger movement (F41A 17/02-F41A 17/40 take precedence) [5]
- 17/48 • • Automatically operated trigger safeties, i.e. operated by breech opening or closing movement [5]
- 17/50 • • • by breakdown action [5]
- 17/52 • • Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns [5]
- 17/54 • • Protecting-caps for trigger guards; Trigger locking pieces mounted on, or within, the trigger guard [5]
- 17/56 • Sear safeties, i.e. means for rendering ineffective an intermediate lever transmitting trigger movement to firing pin, hammer, bolt or sear (F41A 17/02-F41A 17/40 take precedence) [5]
- 17/58 • • automatically operated, i.e. operated by breech opening or closing movement [5]
- 17/60 • • • by breakdown action [5]
- 17/62 • • Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns [5]
- 17/64 • Firing-pin safeties, i.e. means for preventing movement of slidably-mounted strikers (F41A 17/02-F41A 17/40 take precedence) [5]
- 17/66 • • automatically operated, i.e. operated by breech opening or closing movement [5]
- 17/68 • • • by breakdown action [5]
- 17/70 • • Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns [5]
- 17/72 • • trigger-operated, i.e. the movement of the trigger bringing a firing-pin safety into inoperative position during the firing [5]
- 17/74 • Hammer safeties, i.e. for preventing the hammer from hitting the cartridge or the firing pin (F41A 17/02-F41A 17/40 take precedence) [5]
- 17/76 • • automatically operated, i.e. operated by breech opening or closing movement [5]
- 17/78 • • • by breakdown action [5]
- 17/80 • • Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns [5]
- 17/82 • • trigger-operated, i.e. the movement of the trigger bringing a hammer safety into inoperative position during firing [5]
- 19/00 Firing or trigger mechanisms; Cocking mechanisms [5]**
- 19/01 • Counting means indicating the number of shots fired [5]
- 19/02 • • Burst limiters (F41A 19/67 takes precedence) [5]
- 19/03 • Shot-velocity control (F41A 3/78, F41A 5/28, F41A 19/05, F41A 19/66 take precedence) [5]
- 19/04 • • by regulating the time of release of the firing pin or hammer [5]
- 19/05 • Synchronising for firing through the propeller of an aircraft [5]
- 19/06 • Mechanical firing mechanisms (F41A 19/01-F41A 19/05, F41A 19/59 take precedence) [5]
- 19/07 • • press-button actuated, e.g. with thumb rest [5]
- 19/08 • • remote actuated; lanyard actuated [5]
- 19/09 • • Auxiliary trigger devices (F41A 19/08 takes precedence) [5]
- 19/10 • • Triggers; Trigger mountings [5]
- 19/11 • • Trigger guards; Trigger-guard mountings (F41A 19/15 takes precedence) [5]
- 19/12 • • Sear; Sear mountings [5]
- 19/13 • • Percussion or firing pins, i.e. fixed or slidably-mounted striker elements; Mountings therefor [5]
- 19/14 • • Hammers, i.e. pivotably-mounted striker elements; Hammer mountings [5]
- 19/15 • • Modular firing mechanism units [5]
- 19/16 • • Adjustable firing mechanisms; Trigger mechanisms with adjustable trigger pull (F41A 19/17 takes precedence) [5]
- 19/17 • • Hair-trigger mechanisms [5]
- 19/18 • • for multibarrel guns (F41A 19/68 takes precedence) [5]
- 19/19 • • • with single-trigger firing possibility [5]
- 19/20 • • • • Double-trigger arrangements having the possibility of single-trigger actuation [5]
- 19/21 • • • • having only one trigger [5]
- 19/22 • • • • • and only one striker element [5]
- 19/23 • • • • • rotatable about an axis parallel to the barrel axis for firing subsequent barrels [5]
- 19/24 • • Release-trigger mechanisms, i.e. the striker element being released during the return movement of the trigger subsequent to trigger pull [5]
- 19/25 • • having only slidably-mounted striker elements, i.e. percussion or firing pins [5]
- 19/26 • • • the percussion or firing pin and the breech-block or bolt forming one piece [5]
- 19/27 • • • the percussion or firing pin being movable relative to the breech-block [5]
- 19/28 • • • • propelled by a cam or lever when the breech-block or bolt arrives at a closing position [5]
- 19/29 • • • • propelled by a spring under tension [5]
- 19/30 • • • • • in bolt-action guns [5]
- 19/31 • • • • • Sear arrangements therefor (F41A 19/33 takes precedence) [5]
- 19/32 • • • • • for catching the percussion or firing pin after each shot, i.e. in single-shot or semi-automatic firing mode [5]
- 19/33 • • • • • Arrangements for the selection of automatic or semi-automatic fire [5]
- 19/34 • • • • • Cocking mechanisms [5]
- 19/35 • • • • • Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement [5]
- 19/36 • • • • • in block-action guns [5]
- 19/37 • • • • • Cocking mechanisms [5]
- 19/38 • • • • • Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement [5]
- 19/39 • • • • • Cocking mechanisms for other types of guns, e.g. fixed breech-block types, forwardly-slidable barrel types [5]
- 19/40 • • • • • Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement [5]
- 19/41 • • • • • for breakdown guns [5]
- 19/42 • • having at least one hammer [5]
- 19/43 • • • in bolt-action guns [5]
- 19/44 • • • Sear arrangements therefor (F41A 19/46 takes precedence) [5]
- 19/45 • • • • • for catching the hammer after each shot, i.e. in single-shot or semi-automatic firing mode [5]

F41A

- 19/46 • • • • Arrangements for the selection of automatic or semi-automatic fire [5]
- 19/47 • • • • Cocking mechanisms [5]
- 19/48 • • • • • Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement [5]
- 19/49 • • • • in block-action guns [5]
- 19/50 • • • • • Cocking mechanisms [5]
- 19/51 • • • • • Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement [5]
- 19/52 • • • • Cocking mechanisms for other types of guns, e.g. fixed breech-block types, revolvers [5]
- 19/53 • • • • • Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement [5]
- 19/54 • • • • • for breakdown guns [5]
- 19/55 • Fluid-operated firing mechanisms [5]
- 19/56 • • Ignition of the propellant charge by contact with air heated by adiabatic compression [5]
- 19/57 • Firing mechanisms operating with primer cartridge [5]
- 19/58 • Electric firing mechanisms (F41A 17/10, F41A 17/12 take precedence) [5]
- 19/59 • • Electromechanical firing mechanisms, i.e. the mechanical striker element being propelled or released by electric means [5]
- 19/60 • • characterised by the means for generating electric energy [5]
- 19/61 • • • Inductive generators [5]
- 19/62 • • • Piezo-electric generators [5]
- 19/63 • • having means for contactless transmission of electric energy, e.g. by induction, by sparking gap [5]
- 19/64 • • for automatic or burst-firing mode [5]
- 19/65 • • • for giving ripple fire, i.e. using electric sequencer switches for timed multiple-charge launching, e.g. for rocket launchers [5]
- 19/66 • • • Electronic shot-velocity control (F41A 19/65 takes precedence) [5]
- 19/67 • • • Burst limiters [5]
- 19/68 • • for multibarrel guns (F41A 19/65 takes precedence) [5]
- 19/69 • • Electric contacts or switches peculiar thereto (F41A 19/65 takes precedence) [5]
- 19/70 • • • Electric firing pins; Mountings therefor [5]
- 21/00 **Barrels; Gun tubes; Muzzle attachments; Barrel mounting means** (F41A 25/00 takes precedence; barrel attachments for firing grenades or riot-control ammunition from smallarms F41C 27/06; sighting devices F41G 1/00) [5]
- 21/02 • Composite barrels, i.e. barrels having multiple layers, e.g. of different materials [5]
- 21/04 • • Barrel liners [5]
- 21/06 • Plural barrels [5]
- 21/08 • • Barrel junctions [5]
- 21/10 • Insert barrels, i.e. barrels for firing reduced calibre ammunition and being mounted within the normal barrels [5]
- 21/12 • Cartridge chambers; Chamber liners (F41A 3/74, F41A 9/46, F41A 21/04 take precedence) [5]
- 21/14 • • Arrangement of cartridge chambers lateral to the barrel axis [5]
- 21/16 • Barrels or gun tubes characterised by the shape of the bore [5]
- 21/18 • • Grooves; Rifling [5]
- 21/20 • Barrels or gun tubes characterised by the material (F41A 21/02 takes precedence) [5]
- 21/22 • Barrels which have undergone surface treatment, e.g. phosphating [5]
- 21/24 • Barrels or gun tubes with fins or ribs, e.g. for cooling [5]
- 21/26 • specially adapted for recoil reinforcement, e.g. for training purposes [5]
- 21/28 • Gas-expansion chambers; Barrels provided with gas-relieving ports (F41A 1/06, F41A 13/08 take precedence) [5]
- 21/30 • Silencers [5]
- 21/32 • Muzzle attachments or glands (F41A 21/26, F41A 21/30, F41A 21/46 take precedence) [5]
- 21/34 • • Flash dampers [5]
- 21/36 • • for recoil reduction (recoil reduction arrangements in general F41A 25/00) [5]
- 21/38 • • • adjustable [5]
- 21/40 • • Chokes for shotguns [5]
- 21/42 • • • adjustable [5]
- 21/44 • Insulation jackets; Protective jackets [5]
- 21/46 • Barrels having means for separating sabots from projectiles [5]
- 21/48 • Barrel mounting means, e.g. releasable mountings for replaceable barrels [5]
- 23/00 **Gun mountings, e.g. on vehicles; Disposition of guns on vehicles** (F41A 25/00, F41A 27/00 take precedence) [5]
- 23/02 • Mountings without wheels [5]
- 23/04 • • Unipods [5]
- 23/06 • • • adjustable [5]
- 23/08 • • Bipods [5]
- 23/10 • • • adjustable [5]
- 23/12 • • Tripods [5]
- 23/14 • • • adjustable [5]
- 23/16 • • Testing mounts [5]
- 23/18 • • Rests for supporting smallarms in non-shooting position (racks for storage A47B 81/00; racks in vehicles B60R 11/00) [5]
- 23/20 • for disappearing guns [5]
- 23/22 • • on board of submarines [5]
- 23/24 • Turret gun mountings (feeding, loading or guiding ammunition F41A 9/00; mechanical elevating or traversing systems for turret guns F41A 27/18) [5]
- 23/26 • Mountings for transport only; Loading or unloading arrangements for guns for use with carrier vehicles (F41A 23/50 takes precedence) [5]
- 23/28 • Wheeled-gun mountings; Endless-track gun mountings [5]
- 23/30 • • the wheels being liftable from the ground for firing [5]
- 23/32 • • with split trails (F41A 23/30, F41A 23/46 take precedence) [5]
- 23/34 • on wheeled or endless-track vehicles [5]
- 23/36 • • on trailers (F41A 23/42 takes precedence) [5]
- 23/38 • • on motorcycles [5]
- 23/40 • • on rail vehicles [5]
- 23/42 • • for rocket throwers [5]
- 23/44 • on sledges [5]
- 23/46 • Trail spades [5]
- 23/48 • • elastic [5]
- 23/50 • Travelling locks; Brakes for holding the gun platform in a fixed position during transport [5]
- 23/52 • Base plates for gun mountings [5]
- 23/54 • • for mortars [5]

- 23/56 • Arrangements for adjusting the gun platform in the vertical or horizontal position (F41A 17/10, F41A 17/12 take precedence) [5]
- 23/58 • • Hydraulic jacks [5]
- 23/60 • • Screw-operated jacks [5]
- 25/00 Gun mountings permitting recoil or return to battery, e.g. gun cradles; Barrel buffers or brakes** (recoilless guns F41A 1/08) [5]
- 25/02 • Fluid-operated systems [5]
- 25/04 • • adjustable [5]
- 25/06 • Friction-operated systems [5]
- 25/08 • • adjustable [5]
- 25/10 • Spring-operated systems [5]
- 25/12 • • using coil springs [5]
- 25/14 • • • adjustable [5]
- 25/16 • Hybrid systems [5]
- 25/18 • • Hydroelastic systems [5]
- 25/20 • • Hydropneumatic systems [5]
- 25/22 • Bearing arrangements for the reciprocating gun-mount or barrel movement [5]
- 25/24 • • using ball or roller bearings [5]
- 25/26 • Assembling or dismantling recoil elements or systems [5]
- 27/00 Gun mountings permitting traversing or elevating movement, e.g. gun carriages** [5]
- 27/02 • Control systems for preventing interference between the moving gun and the adjacent structure [5]
- 27/04 • Scatter-fire arrangements, i.e. means for oscillating guns automatically during firing [5]
- 27/06 • Mechanical systems (F41A 27/02, F41A 27/04, F41A 27/30 take precedence) [5]
- 27/08 • • Bearings, e.g. trunnions; Brakes or blocking arrangements [5]
- 27/10 • • • Bearings for supporting a pivoting gun in a wall, e.g. a turret wall [5]
- 27/12 • • • Brakes or locks for blocking traversing or elevating gear in a fixed position [5]
- 27/14 • • • Central-pivot bearings [5]
- 27/16 • • • using raceway bearings, e.g. for supporting the turret [5]
- 27/18 • • • for gun turrets (F41A 27/08 takes precedence) [5]
- 27/20 • • • Drives for turret movements [5]
- 27/22 • • Traversing gear (F41A 27/18 takes precedence) [5]
- 27/24 • • Elevating gear (F41A 27/18 takes precedence) [5]
- 27/26 • Fluid-operated systems (F41A 27/02, F41A 27/04, F41A 27/30 take precedence) [5]
- 27/28 • Electrically-operated systems (F41A 27/02, F41A 27/04, F41A 27/30 take precedence) [5]
- 27/30 • Stabilisation or compensation systems, e.g. compensating for barrel weight or wind force [5]
- 29/00 Cleaning or lubricating arrangements** (injecting fluids into barrels or cartridge chambers F41A 13/04) [5]
- 29/02 • Scrapers or cleaning rods [5]
- 29/04 • Lubricating, oiling or greasing means, e.g. operating during use [5]
- 31/00 Testing arrangements** (testing mounts F41A 23/16) [5]
- 31/02 • for checking gun barrels [5]
- 33/00 Adaptations for training** (adaptations of barrels for recoil reinforcement F41A 21/26); **Gun simulators** (teaching or practice apparatus for gun-aiming or gun-laying F41G 3/26) [5]
- 33/02 • Light- or radiation-emitting guns [5]
- 33/04 • Acoustical simulation of gun fire, e.g. by pyrotechnic means [5]
- 33/06 • Recoil simulators [5]
- 35/00 Accessories or details not otherwise provided for** [5]
- 35/02 • Dust- or weather-protection caps or covers (protecting-caps for trigger guards F41A 17/54) [5]
- 35/04 • • Muzzle covers [5]
- 35/06 • Adaptation of guns to both right and left hand use [5]
- 99/00 Subject matter not provided for in other groups of this subclass** [2006.01]

F41B WEAPONS FOR PROJECTING MISSILES WITHOUT USE OF EXPLOSIVE OR COMBUSTIBLE PROPELLANT CHARGE; WEAPONS NOT OTHERWISE PROVIDED FOR (projectiles for fishing, e.g. fish-spears, A01K 81/00; sports implements for throwing A63B 65/00, e.g. boomerangs A63B 65/08; stationary apparatus for projecting sports balls, e.g. tennis balls, A63B 69/40; throwing or slinging toys A63H 33/18, knives, axes B26B; projectiles or missiles other than those incorporating springs as projecting means F42B 6/00)

Subclass index

BLOW GUNS.....	1/00
SLING WEAPONS.....	3/00
FRICITION-WHEEL OPERATED LAUNCHERS.....	4/00
BOWS, CROSSBOWS.....	5/00
ELECTROMAGNETIC LAUNCHERS.....	6/00
SPRING GUNS.....	7/00
LIQUID PRESSURE GUNS, e.g. WATER PISTOLS.....	9/00
AIR GUNS, STEAM GUNS.....	11/00
THRUSTING WEAPONS, CUTTING WEAPONS CARRIED AS SIDE-ARMS.....	13/00
OTHER WEAPONS.....	15/00

1/00 Blow guns, i.e. tubes for impelling projectiles, e.g. peas or darts, by the force of the breath (pop guns A63H)

3/00 Sling weapons (throwing-apparatus for clay-pigeon or clay-disc targets F41J 9/18)

3/02 • Catapults, e.g. slingshots [3]

3/03 • • Catapults having a pivotable launcher arm [5]

F41B

- 3/04 • Centrifugal sling apparatus [3]
- 4/00 Friction-wheel operated launchers [5]**
- 5/00 Bows; Crossbows**
- 5/06 • Quivers [3]
- 5/10 • Compound bows [5]
- 5/12 • Crossbows [5]
- 5/14 • Details of bows; Accessories for arc shooting (sighting devices for bows F41G 1/467) [5]
- 5/16 • • Archer's finger tabs (sporting arm or hand protectors in general A41D 13/08) [5]
- 5/18 • • Bow-string drawing or releasing devices (F41B 5/16 takes precedence) [5]
- 5/20 • • Bow stabilisers or vibration dampers [5]
- 5/22 • • Arrow rests or guides [5]
- 6/00 Electromagnetic launchers [5]**
- 7/00 Spring guns** (catapults F41B 3/02)
- 7/02 • the spring forming part of the missile or projectile
- 7/04 • adapted to discharge harpoons
- 7/08 • Toy guns
- 9/00 Liquid ejecting guns, e.g. water pistols**
- 11/00 Air guns, e.g. air pistols; Steam guns**
- 11/02 • Adaptations for feeding or loading missiles from magazines
- 11/04 • for ejecting a powder, e.g. pepper
- 11/06 • with pressure supplied by gas cartridge (F41B 11/08 takes precedence; valves therefor F41B 11/32)
- 11/08 • adapted to discharge harpoons
- 11/12 • having an air piston effecting a compressor stroke during the firing of each shot [5]
- 11/14 • • spring-operated [5]
- 11/16 • • • having an additional slidable mass moving in the opposite direction of the piston, e.g. for recoil reduction [5]
- 11/18 • • • Arrangements for putting the spring under tension [5]
- 11/20 • • • • by a rocking lever [5]
- 11/22 • • • • in breakdown air guns [5]
- 11/24 • having a deformable bellows or bulb pressed during the firing [5]
- 11/26 • having precompressed air before the firing (F41B 11/06, F41B 11/08, F41B 11/32 take precedence) [5]
- 11/28 • • Pumping or compressor arrangements therefor [5]
- 11/30 • • • operated by a rocking-lever system, e.g. in breakdown air guns [5]
- 11/32 • Arrangement of valves in, or valves specially adapted for, air guns [5]
- 11/34 • Sealing arrangements; Pistons [5]
- 13/00 Thrusting-weapons** (bayonets F41C 27/18); **Cutting-weapons carried as side-arms** (training appliances for fencing A63B 69/02; sheaths for hand cutting tools B26B 29/00)
- 13/02 • Sabres; Cutlasses; Swords; Epees
- 13/04 • • Sheaths or scabbards therefor
- 13/06 • • • for concealment, e.g. swordsticks
- 13/08 • Daggers; Stilettoes
- 13/10 • Lances; Pikes (spears for sporting purposes A63B 65/02)
- 15/00 Weapons not otherwise provided for**
- 15/02 • Batons; Truncheons; Sticks; Shillelughs
- 15/04 • • with electric stunning-means
- 15/06 • • with inserted knives or spikes
- 15/08 • Knuckledusters
- 15/10 • Bolas

F41C SMALLARMS, e.g. PISTOLS, RIFLES (functional features or details common to both smallarms and ordnance, mountings therefor F41A; projecting missiles without use of explosive or combustible propellant charge F41B); **ACCESSORIES THEREFOR [5]**

Note(s)

Attention is drawn to the definitions in Note (2) following the title of class F41.

Subclass index

KINDS OF SMALLARMS

- Pistols, revolvers.....3/00
- Shoulder-fired smallarms.....7/00
- Other smallarms, e.g. hidden, muzzle-loaded, underwater.....9/00

BUTTS, BUTT PLATES, STOCKS.....23/00

ACCESSORIES; OTHER DETAILS.....27/00

WEARING OR CARRYING-MEANS.....33/00

- 3/00 Pistols, e.g. revolvers** (specially adapted for underwater use F41C 9/06; for slaughtering or stunning animals A22B; for shooting bolts into concrete constructions, metal walls or the like B25C) [3, 5]
- 3/02 • Signal pistols, e.g. Very pistols
- 3/04 • Starting pistols; Alarm pistols
- 3/06 • Cap-firing pistols, e.g. toy pistols
- 3/08 • • with band supply
- 3/10 • • with rotatable cap carrier, e.g. drum [5]
- 3/12 • • with slidable cap carrier, e.g. clip (F41C 3/08 takes precedence) [5]
- 3/14 • Revolvers (F41C 3/10 takes precedence; sealing aspects F41A 3/76; using a revolving drum magazine for feeding revolver-type guns, other than revolvers, F41A 9/27; extractors or ejectors therefor F41A 15/02) [5]
- 3/16 • • Hinge-frame revolvers [5]

- 7/00 Shoulder-fired smallarms, e.g. rifles, carbines, shotguns** (specially adapted for underwater use F41C 9/06) [3]
- 7/02 • Pump-action guns, i.e. guns having a reciprocating handgrip beneath the barrel for loading or cocking
 - 7/04 • with reciprocating handgrip under the buttstock for loading or cocking
 - 7/06 • Lever-action guns, i.e. guns having a rocking lever for loading or cocking
 - 7/11 • Breakdown shotguns or rifles (hinge-frame revolvers F41C 3/16; breech mechanisms therefor F41A 3/58; cocking mechanisms therefor F41A 19/41) [5]
- 9/00 Other smallarms, e.g. hidden smallarms or smallarms specially adapted for underwater use** [3]
- 9/02 • Concealed pistols, e.g. in pencils
 - 9/04 • Walking-stick guns
 - 9/06 • Smallarms specially adapted for underwater use
 - 9/08 • Muzzle-loading smallarms; Smallarms with flintlock mechanisms; Accessories therefor [5]
- 23/00 Butts; Butt plates; Stocks**
- 23/02 • Attachment of slings
 - 23/04 • Folding or telescopic stocks or stock parts (articulated or collapsible guns F41A 11/04) [5]
 - 23/06 • Stocks specially adapted for recoil reduction [5]
 - 23/08 • • Recoil absorbing pads [5]
 - 23/10 • Stocks or grips for pistols, e.g. revolvers (F41C 23/12 takes precedence) [5]
 - 23/12 • Auxiliary stocks for stabilising, or for transforming pistols, e.g. revolvers, into shoulder-fired guns [5]
- 27/00 Accessories; Details or attachments not otherwise provided for**
- 27/04 • Arrangements for mounting spades or shields (spades *per se* A01B 1/02; shields *per se* F41H 5/06)
 - 27/06 • Adaptations of smallarms for firing grenades, e.g. rifle grenades, or for firing riot-control ammunition; Barrel attachments therefor (signal pistols F41C 3/02)
 - 27/16 • Smallarms combined with thrusting or cutting weapons (thrusting or cutting weapons, other than bayonets F41B 13/00); Bayonets; Bayonet mounts [5]
 - 27/18 • • Bayonets; Bayonet mounts [5]
 - 27/20 • Attachments for wire cutting [5]
 - 27/22 • Balancing or stabilising arrangements [5]
- 33/00 Means for wearing or carrying smallarms**
- 33/02 • Holsters, i.e. cases for pistols having means for being carried or worn, e.g. at the belt or under the arm
 - 33/04 • • Special attachments therefor
 - 33/06 • Containers for carrying smallarms, e.g. safety boxes, gun cases (F41C 33/02 takes precedence) [5]
 - 33/08 • Handles for carrying smallarms [5]

Details

F41F APPARATUS FOR LAUNCHING PROJECTILES OR MISSILES FROM BARRELS, e.g. CANNONS (smallarms F41C); **LAUNCHERS FOR ROCKETS OR TORPEDOES; HARPOON GUNS** (functional features or details common to both smallarms and ordnance, mountings therefor F41A; projecting missiles without use of explosive or combustible propellant charge F41B) [5]

Subclass index

LAUNCHING FROM BARRELS.....1/00
 ROCKET OR TORPEDO LAUNCHERS.....3/00
 LAUNCHING GRAVITY-PROPELLED PROJECTILES OR MISSILES.....5/00
 OTHER LAUNCHING APPARATUS.....7/00

- 1/00 Launching apparatus for projecting projectiles or missiles from barrels, e.g. cannons** (F41F 3/00 takes precedence); **Harpoon guns**
- 1/06 • Mortars (base plates therefor F41A 23/54)
 - 1/08 • Multibarrel guns, e.g. twin guns [5]
 - 1/10 • • Revolving-cannon guns, i.e. multibarrel guns with the barrels and their respective breeches mounted on a rotor; Breech mechanisms therefor [5]
- 3/00 Rocket or torpedo launchers**
- 3/04 • for rockets
 - 3/042 • • the launching apparatus being used also as transport container for the rocket [4]
 - 3/045 • • adapted to be carried and used by a person, e.g. bazookas (F41F 3/042 takes precedence) [4]
 - 3/048 • • Means for imparting spin to the rocket before launching [4]
- 3/052 • • Means for securing the rocket in the launching apparatus [4]
 - 3/055 • • Umbilical connecting means [4]
 - 3/058 • • Means for removing duds or misfires [4]
 - 3/06 • • from aircraft
 - 3/065 • • • Rocket pods, i.e. detachable containers for launching a plurality of rockets [5]
 - 3/07 • • Underwater launching-apparatus [4]
 - 3/073 • • Silos for rockets, e.g. mounting or sealing rockets therein (F41F 3/077 takes precedence) [5]
 - 3/077 • • Doors or covers for launching tubes [5]
 - 3/08 • for marine torpedoes
 - 3/10 • • from below the surface of the water
- 5/00 Launching-apparatus for gravity-propelled missiles or projectiles** (from aircraft B64D 1/04)
- 5/04 • from ships, e.g. for mines, for depth charges

F41F**7/00 Launching-apparatus for projecting missiles or****projectiles otherwise than from barrels (F41F 3/04 takes precedence) [3]****F41G WEAPON SIGHTS; AIMING (optical aspects thereof G02B)****1/00 Sighting devices (for indirect laying of fire F41G 3/16; bombsights F41G 3/24)**

1/01 • characterised by the visual combination effect of the respective geometrical forms of fore and rear sight (F41G 1/42 takes precedence) [5]

1/02 • Foresights

1/027 • • with lens [5]

1/033 • • adjustable [5]

1/04 • • Protection means therefor

1/06 • Rearsights

1/08 • • with aperture

1/10 • • with notch

1/12 • • with line or mark other than notch

1/14 • • with lens

1/16 • • Adjusting mechanisms therefor; Mountings therefor

1/17 • • • Convertible sights, i.e. sets of two or more sights brought into the sight line optionally [5]

1/18 • • • Clicking indicators with spring detents

1/20 • • • coarse and fine

1/22 • • • Friction clamps

1/24 • • • rack-and-pinion; lever; linkwork

1/26 • • • screw

1/28 • • • wedge; cam; eccentric

1/30 • Reflecting sights specially adapted for smallarms or ordnance (reflecting-sights in general G02B)

1/32 • Night sights, e.g. luminescent

1/34 • • combined with light source, e.g. spot light

1/35 • • • for illuminating the target [5]

1/36 • • • with infra-red light source

1/38 • Telescopic sights specially adapted for smallarms or ordnance (telescopic sights in general G02B); Supports or mountings therefor

1/387 • • Mounting telescopic sights on smallarms [5]

1/393 • • Mounting telescopic sights on ordnance; Transmission of sight movements to the associated gun [5]

1/40 • Periscopic sights specially adapted for smallarms or ordnance (periscopic sights in general G02B); Supports or mountings therefor

1/41 • • Mounting periscopic sights on smallarms [5]

1/42 • Tube sights; Bar sights

1/44 • Spirit-level adjusting-means, e.g. for correcting tilt

1/46 • for particular applications

1/467 • • for bows [5]

1/473 • • for lead-indicating or range-finding, e.g. for use with rifles or shotguns [5]

1/48 • • for firing grenades from rifles

1/50 • • for trench mortars

1/52 • • for rifles or shotguns having two or more barrels, or adapted to fire different kinds of ammunition, e.g. ball or shot

1/54 • Devices for testing or checking

3/00 Aiming means; Laying means (sighting devices F41G 1/00; determining direction, distance or velocity by use of radio or other waves G01S; computers G06; aerials H01Q)

3/02 • using an independent line of sight

3/04 • for dispersing fire from a battery

3/06 • with rangefinder (rangefinders *per se* G01C)

3/08 • with means for compensating for speed, direction, temperature, pressure, or humidity of the atmosphere (measuring G01)

3/10 • with means for compensating for canting of the trunnions

3/12 • with means for compensating for muzzle velocity or powder temperature

3/14 • Indirect aiming means

3/16 • • Sighting devices adapted for indirect laying of fire

3/18 • • Auxiliary target devices adapted for indirect laying of fire

3/20 • • specially adapted for mountain artillery

3/22 • for vehicle-borne armament, e.g. on aircraft

3/24 • • Bombsights

3/26 • Teaching or practice apparatus for gun-aiming or gun-laying

3/28 • • Small-scale apparatus (relief models or maps G09B)

3/30 • • Gun-laying apparatus

3/32 • Devices for testing or checking

5/00 Elevating or traversing control systems for guns (gun mountings permitting traversing or elevating movement, e.g. gun carriages, F41A 27/00; computers G06)

5/02 • using only mechanical means for remote control

5/04 • using hydraulic means for remote control

5/06 • using electric means for remote control

5/08 • Ground-based tracking-systems for aerial targets

5/12 • acoustically influenced

5/14 • for vehicle-borne guns

5/16 • • gyroscopically influenced

5/18 • • Tracking systems for guns on aircraft

5/20 • • for guns on ships

5/22 • • • to compensate for rolling or pitching

5/24 • • for guns on tanks

5/26 • Apparatus for testing or checking

7/00 Direction control systems for self-propelled missiles

(flight control B64C, G05D 1/00; self-propelled or guided missiles having direction control systems only installed aboard F42B 15/01; rocket torpedoes F42B 17/00; marine torpedoes or sea-mines having self-propulsion means F42B 19/00; locating by use of radio or other waves G01S; computing aspects G06)

7/20 • based on continuous observation of target position [3]

7/22 • • Homing guidance systems [3]

7/24 • • Beam riding guidance systems (conical-scan beam beacons therefor G01S 1/42) [3]

7/26 • • • Optical guidance systems [3]

7/28 • • • Radio guidance systems [3]

7/30 • • Command link guidance systems [3]

7/32 • • • for wire-guided missiles [3]

7/34 • based on predetermined target position data [3]

7/36 • • using inertial references [3]

9/00 Systems for controlling missiles or projectiles, not provided for elsewhere

9/02 • for bombing control (bombsights F41G 3/24)

11/00 **Details of sighting or aiming apparatus; Accessories****F41H ARMOUR; ARMoured TURRETS; ARMoured OR ARMED VEHICLES; MEANS OF ATTACK OR DEFENCE, e.g. CAMOUFLAGE, IN GENERAL****Subclass index****ARMOUR**

Personal protection gear.....1/00

Armour plates, shields.....5/00

CAMOUFLAGE.....3/00

ARMoured OR ARMED VEHICLES.....7/00

FLAME, GAS OR CHEMICAL WARFARE.....9/00

OTHER ATTACK OR DEFENCE MEANS.....11/00, 13/00

1/00 Personal protection-gear (shields for personal use F41H 5/08; for protection against chemical warfare A62B)

1/02 • Armoured or projectile- or missile-resistant garments; Composite protection fabrics

1/04 • Protection helmets (crash helmets A42B 3/00)

1/06 • • of steel; Steel head-shields

1/08 • • of plastics; Plastic head-shields

3/00 Camouflage, i.e. means or methods for concealment or disguise (for vessels B63G 8/34, B63G 13/02)3/02 • Covers, e.g. screens, nets (making thereof, see the relevant classes, e.g. D04)**5/00 Armour; Armour plates** (processes for manufacturing or treating B21, C21)

5/007 • Reactive armour; Dynamic armour [5]

5/013 • Mounting or securing armour plates [5]

5/02 • Plate construction

5/04 • • composed of more than one layer

5/06 • Shields (in ships B63G 9/00; in aircraft B64D 7/00)

5/08 • • for personal use

5/10 • • • Spade bayonets, i.e. usable as a spade, bayonet, or cover against rifle fire

5/12 • • for smallarms; for light-rocket launchers

5/14 • • • Wheeled armoured shields

5/16 • • for ordnance

5/18 • • Rotating shields

5/20 • Turrets

5/22 • Manhole covers, e.g. on tanks (in general F16J)

5/24 • for stationary use, e.g. fortifications

5/26 • Peepholes; Windows (manufacture or composition of glass C03); Covers therefor

7/00 Armoured or armed vehicles (general vehicle aspects B60; armoured or armed ships B63G; armoured or armed aircraft B64D; mounting guns, e.g. machine-guns, on vehicles F41A 23/00)

7/02 • Land vehicles with enclosing armour, e.g. tanks (endless-track vehicles, steering thereof B62D)

7/03 • • Air-pressurised compartments for crew; Means for preventing admission of noxious substances, e.g. combustion gas from gun barrels, in crew compartments; Sealing arrangements [5]

7/04 • • Armour construction (in general F41H 5/00)

7/10 • Mine-laying land vehicles

9/00 Equipment for attack or defence by spreading flame, gas, or smoke; Chemical warfare equipment (protection against chemicals A62B)

9/02 • Flame-throwing apparatus (for destroying vegetation A01M 15/00)

9/04 • Gas blowing apparatus, e.g. for tear gas (F41H 9/10 takes precedence)

9/06 • Apparatus for generating artificial fog or smoke screens (smoke-pot projectors, e.g. arranged on vehicles, F42B 5/155)

9/08 • • Smoke-pots without propulsive charge, i.e. stationary [5]

9/10 • Hand-held or body-worn self-defence devices using repellant gases or chemicals [5]

11/00 Defence installations; Defence devices (constructional aspects, see section E, e.g. E04H 9/04); **Means for clearing or detecting landmines**

11/02 • Anti-aircraft or anti-guided missile defence installations or systems (cartridges or missiles for producing smoke or for dispensing radar chaff or infra-red material F42B 5/15, F42B 12/48, F42B 12/70)

11/04 • • Aerial barrages

11/05 • Net barriers for harbour defence

11/06 • Gun-traps

11/08 • Barbed-wire obstacles; Barricades; Stanchions; Tank traps; Vehicle-impeding devices; Caltraps

11/10 • • Dispensing-apparatus therefor, e.g. devices for dispensing and reeling barbed wire

11/11 • • Clearing or neutralising barbed-wire obstacles (smallarm attachments for wire cutting F41C 27/20) [5]

11/12 • *Means for clearing land minefields; Systems specially adapted for detection of landmines [1, 2011.01]*11/13 • • *Systems specially adapted for detection of landmines [2011.01]*11/132 • • • *Biological systems, e.g. with detection by animals or plants [2011.01]*11/134 • • • *Chemical systems, e.g. with detection by vapour analysis [2011.01]*11/136 • • • *Magnetic, electromagnetic, acoustic or radiation systems, e.g. ground penetrating radars or metal-detectors [2011.01]*11/138 • • • *Mechanical systems, e.g. prodding sticks for manual detection [2011.01]*

11/14 • • Explosive line charges, e.g. snakes

F41H

- 11/16 • • *Self-propelled mine-clearing vehicles; Mine-clearing devices attachable to vehicles [1, 2011.01]*
- 11/18 • • • *with ground-impacting means for activating mines by the use of mechanical impulses, e.g. flails or stamping elements [2011.01]*
- 11/20 • • • *with ground-penetrating elements, e.g. with means for removing buried landmines from the soil (F41H 11/18 takes precedence) [2011.01]*
- 11/22 • • • *the elements being excavation buckets [2011.01]*
- 11/24 • • • • *the elements being ploughs [2011.01]*
- 11/26 • • • • *the elements being rotary ground-penetrating elements [2011.01]*
- 11/28 • • • *using brushing or sweeping means or dozers to push mines lying on a surface aside; using means for removing mines intact from a surface [2011.01]*
- 11/30 • • • *with rollers creating a surface load on the ground, e.g. steadily increasing surface load, for triggering purposes [2011.01]*
- 11/32 • • • *Decoy or sacrificial vehicles; Decoy or sacrificial devices attachable to vehicles [2011.01]*
- 13/00 Means of attack or defence not otherwise provided for**

F41J TARGETS; TARGET RANGES; BULLET CATCHERS

Subclass index

TARGETS

Stationary or movable.....	1/00, 7/00, 9/00
Reflecting or active.....	2/00
Specially adapted for arrows or darts.....	3/00
TARGET-HIT INDICATORS OR RECORDERS.....	5/00
TARGET STANDS; TARGET RANGES.....	1/00, 11/00
BULLET CATCHERS.....	13/00

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- 1/00 Targets; Target stands; Target holders** (F41J 2/00-F41J 11/00 take precedence; targets combined with bullet catchers F41J 13/02) [5]
 - 1/01 • Target discs characterised by their material, structure or surface (F41J 5/044 takes precedence) [5]
 - 1/08 • for ordnance, e.g. cannons; for attacking by aircraft; Full-scale models imitating target objects, e.g. tanks, aircraft [5]
 - 1/10 • Target stands; Target holders
 - 2/00 Reflecting targets, e.g. radar-reflector targets; Active targets transmitting electromagnetic waves** [5]
 - 2/02 • Active targets transmitting infra-red radiation [5]
 - 3/00 Targets for arrows or darts, e.g. for sporting or amusement purposes**
 - 3/02 • Indicators or score boards for arrow or dart games
 - 5/00 Target indicating systems; Target-hit or score detecting systems** [5]
 - 5/02 • Photo-electric hit-detector systems
 - 5/04 • Electric hit-indicating systems; Detecting hits by actuation of electric contacts or switches [5]
 - 5/044 • • Targets having two or more electrically-conductive layers for short-circuiting by penetrating projectiles [5]
 - 5/048 • • • one of the layers being in the form of discrete target sections [5]
 - 5/052 • • Targets comprising a plurality of electric contacts, each corresponding to a discrete target section and being actuated by the movement thereof (F41J 5/056 takes precedence) [5]
 - 5/056 • • Switch actuation by hit-generated mechanical vibration of the target body, e.g. using shock or vibration transducers [5]
 - 5/06 • Acoustic hit-indicating systems, i.e. detecting of shock waves (F41J 5/056 takes precedence)
 - 5/08 • Infra-red hit-indicating systems
 - 5/10 • Cinematographic hit-indicating systems (cinematographic targets F41J 9/14)
 - 5/12 • for indicating the distance by which a bullet misses the target (F41J 5/02-F41J 5/10 take precedence)
 - 5/14 • Apparatus for signalling hits or scores to the shooter, e.g. manually operated, or for communication between target and shooter; Apparatus for recording hits or scores [5]
 - 5/16 • • Manually evaluating scores, e.g. using scoring plugs or gauges; Apparatus for evaluating scores on targets after removal from the target holder [5]
 - 5/18 • Targets having hit-indicating means actuated or moved mechanically when the target has been hit, e.g. discs or flags (the target as a whole disappearing or moving when hit F41J 7/04) [5]
 - 5/20 • • indicating which part of the target has been hit, i.e. the score [5]
 - 5/22 • • the indicating means being a dispensing device [5]
 - 5/24 • Targets producing a particular effect when hit, e.g. detonation of pyrotechnic charge, bell ring, photograph [5]
 - 5/26 • • exploding or disintegrating when hit (F41J 9/16 takes precedence) [5]
 - 7/00 Movable targets which are stationary when fired at**
 - 7/02 • movable for checking
 - 7/04 • disappearing when hit
 - 7/06 • Bobbing targets, i.e. targets intermittently or unexpectedly appearing [5]
 - 9/00 Moving targets, i.e. moving when fired at** (F41J 2/00 takes precedence) [5]
 - 9/02 • Land-based targets
 - 9/04 • Sea-going targets
 - 9/06 • • towed
 - 9/08 • Airborne targets, e.g. drones, kites, balloons
 - 9/10 • • towed

- 9/14 • Cinematographic targets, e.g. moving-picture targets
 - 9/16 • Clay-pigeon targets; Clay-disc targets
 - 9/18 • • Traps or throwing-apparatus therefor
 - 9/20 • • • with spring-operated throwing arm [3]
 - 9/22 • • • • cocked by manual action [3]
 - 9/24 • • • • cocked by electromechanical means [3]
 - 9/26 • • • operated by fluid means [3]
 - 9/28 • • • operated by manual action [3]
- 9/30 • • • characterised by using a magazine of targets [3]
 - 9/32 • • • characterised by means for obviating the anticipation of the flight path [3]
- 11/00 Target ranges [2009.01]**
 - 11/02 • Safety means therefor [2009.01]
- 13/00 Bullet catchers [2009.01]**
 - 13/02 • combined with targets [2009.01]