

WEAPONS; BLASTING

F41 WEAPONS

Notes

- (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. [4]
- (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; [5]
 - “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; [5]
 - “revolver-type gun” means a gun having a revolving drum magazine, the chambers of which are used successively as firing chamber; [5]
 - “revolver” means a revolver-type pistol; [5]
 - “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. [4]

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

Notes

- (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. [5]
- (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. [5]
- (3) Attention is drawn to the definitions given in Note (2) following the title of class F41. [5]

Subclass Index

KINDS OF PROPULSION.....	1/00	FIRING OR TRIGGER MECHANISMS,	
BREECH MECHANISMS	3/00	COCKING	19/00
UNLOCKING MECHANISMS	5/00	BARRELS, GUN TUBES, MUZZLE	
GUN RECHARGERS, EXTERNALLY		ATTACHMENTS	21/00
POWERED GUNS.....	7/00	GUN MOUNTINGS, e.g. on vehicles	23/00
FEEDING OR LOADING, MAGAZINES	9/00	Permitting recoil.....	25/00
ASSEMBLY FEATURES, MODULAR		Permitting elevation or traversing.....	27/00
CONCEPTS, ARTICULATED OR		CLEANING OR LUBRICATING	29/00
COLLAPSIBLE GUNS	11/00	TESTING.....	31/00
COOLING, HEATING, VENTILATING,		ADAPTATIONS FOR TRAINING.....	33/00
BLOWING TROUGH	13/00	OTHER ACCESSORIES OR DETAILS	35/00
EXTRACTORS, EJECTORS	15/00	SUBJECT MATTER NOT PROVIDED FOR	
SAFETY ARRANGEMENTS	17/00	IN OTHER GROUPS OF THIS SUBCLASS	99/00

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]	3/40	. . . . mounted on the bolt (F41A 3/42 takes precedence) [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]	3/42	. . . . hand-operated [5]
1/04	. Missile propulsion using the combustion of a liquid or gaseous fuel, e.g. hypergolic fuel [5]	3/44	. . . . having sliding locking elements, e.g. balls, rollers [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]	3/46	. . . . mounted on the bolt (F41A 3/48 takes precedence) [5]
1/08	. Recoilless guns, i.e. guns having propulsion means producing no recoil [5]	3/48	. . . . hand-operated [5]
1/10	. . a counter projectile being used to balance recoil [5]	3/50	. . . . Toggle-joint locks, e.g. crank-operated [5]
3/00	Breech mechanism, e.g. locks [5]	3/52	. . . . hand-operated [5]
3/02	. Block action, i.e. the main breech opening movement being transverse to the barrel axis [5]	3/54	. . Bolt locks of the unlocked type, i.e. being inertia operated [5]
3/04	. . with pivoting breech-block [5]	3/56	. . . the bolt being provided with an additional slidable mass [5]
3/06	. . . about a horizontal axis transverse to the barrel axis at the rear of the block (F41A 3/08 takes precedence) [5]	3/58	. Breakdown breech mechanisms, e.g. for shotguns [5]
3/08	. . . carrying a rotably mounted obturating plug of the screw-thread or the interrupted-thread type (F41A 3/30 takes precedence) [5]	3/60	. Breech mechanisms for guns having two or more barrels (F41A 3/58 takes precedence; for revolving-cannon guns F41F 1/10) [5]
3/10	. . with sliding breech-block, e.g. vertically [5]	3/62	. using combustion gas pressure for adding to the mechanical locking action, or for delaying breech opening movement [5]
3/12	. Bolt action, i.e. the main breech opening movement being parallel to the barrel axis [5]	3/64	. Mounting of breech-blocks; Accessories for breech-blocks or breech-block mountings [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]	3/66	. . Breech housings or frames; Receivers [5]
3/16	. . . the locking elements effecting a rotary movement about the barrel axis, e.g. rotating cylinder bolt locks [5]	3/68	. . Bolt stops, i.e. means for limiting bolt opening movement [5]
3/18	. . . . hand-operated [5]	3/70	. . Anti-rebound arrangements, i.e. preventing rebound of the bolt out of the firing position [5]
3/20	. . . . . Straight-pull operated bolt locks, i.e. the operating hand effecting only a straight movement parallel to the barrel axis [5]	3/72	. . Operating handles or levers; Mounting thereof in breech-blocks or bolts [5]
3/22	. . . . . the locking being effected by rotating the operating handle or lever transversely to the barrel axis [5]	3/74	. . Obturating or packing devices for gas leak prevention in breech mechanisms [5]
3/24	. . . . . the locking elements forming part of the operating handle or lever [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]
3/26	. . . . . semi-automatically or automatically operated, e.g. having a slidable bolt-carrier and a rotatable bolt [5]	3/78	. . Bolt buffer or recuperator means [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]	3/80	. . . Adjustable spring buffers [5]
3/30	. . . . . Interlocking means, e.g. locking lugs, screw threads [5]	3/82	. . . Coil spring buffers (F41A 3/80 takes precedence) [5]
3/32	. . . the bolt being rocked about a notional axis transverse to the barrel axis [5]	3/84	. . . . mounted within the gun stock [5]
3/34	. . . the bolt additionally effecting a sliding movement transverse to the barrel axis [5]	3/86	. . . . mounted under the barrel [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]	3/88	. . . . mounted around the barrel [5]
3/38	. . . having rocking locking elements, e.g. pivoting levers or vanes [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]	9/23	. . . . mounted within a smallarm [5]
5/26	. . Arrangements or systems for bleeding the gas from the barrel (F41A 5/20 to F41A 5/24 take precedence) [5]	9/24	. . using a movable magazine or clip as feeding element [5]
5/28	. . . Adjustable systems [5]	9/25	. . . using a sliding clip [5]
5/30	. Gas- or recoil-operation, e.g. selection of gas- or recoil-operated systems [5]	9/26	. . . using a revolving drum magazine [5]
5/32	. Energy accumulator systems, i.e. systems for opening the breech-block by energy accumulated during barrel or gas piston recoil [5]	9/27	. . . . in revolver-type guns [5]
5/34	. . with spring accumulators [5]	9/28	. . . . of smallarm type (in revolvers F41C 3/14) [5]
5/36	. . with fluid accumulators [5]	9/29	. Feeding of belted ammunition [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]	9/30	. . Sprocket-type belt transporters [5]
7/02	. Machine-gun rechargers, e.g. manually operated [5]	9/31	. . . with cartridge stripping means [5]
7/04	. . fluid operated [5]	9/32	. . Reciprocating-slide-type belt transporters [5]
7/06	. . electrically operated [5]	9/33	. . . with cartridge stripping means [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]	9/34	. . from magazines (magazines for belted ammunition <i>per se</i> F41A 9/79) [5]
7/10	. . using a rotating cylindrical drum having a camming groove [5]	9/35	. Feeding multibarrel guns [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]	Note	
9/01	. Feeding of unbelted ammunition [5]	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. [5]	
9/02	. . using wheel conveyers, e.g. star-wheel-shaped conveyers [5]	9/36	. . Feed mechanisms for revolving-cannon guns [5]
9/03	. . using screw or rotary-spiral conveyers [5]	9/37	. Feeding two or more kinds of ammunition to the same gun; Feeding from two sides [5]
9/04	. . using endless-chain belts carrying a plurality of ammunition [5]	Note	
9/05	. . . in tandem sequence [5]	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. [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]	9/38	. Loading arrangements, i.e. for bringing the ammunition into the firing position [5]
9/07	. . . Reciprocating conveyers, i.e. conveyers pushing a plurality of ammunition during the feeding stroke [5]	9/39	. . Ramming arrangements [5]
9/09	. . . Movable ammunition carriers or loading trays, e.g. for feeding from magazines [5]	9/40	. . . the breech-block itself being the rammer [5]
9/10	. . . . pivoting or swinging [5]	9/41	. . . . pushing unbelted ammunition from a box magazine on the gun frame into the cartridge chamber [5]
9/11	. . . . . in a horizontal plane [5]	9/42	. . . . Rammers separate from breech-block [5]
9/12	. . . . . mounted within a smallarm [5]	9/43	. . . . Chain rammers [5]
9/13	. . . . . in a vertical plane [5]	9/44	. . . . Fluid-operated piston rammers [5]
9/14	. . . . . transverse to the barrel axis [5]	9/45	. the cartridge chamber or the barrel as a whole being tiltable between a loading and a firing position [5]
9/15	. . . . . mounted within a smallarm [5]	9/46	. the cartridge chamber being formed by two complementary elements, movable one relative to the other for loading [5]
9/16	. . . . . parallel to the barrel axis [5]	9/47	. . using forwardly-sliding barrels or barrel parts for loading [5]
9/17	. . . . . mounted within a smallarm [5]	9/48	. . by gravitational force [5]
9/18	. . . . . feeding from a magazine under the barrel [5]	9/49	. Internally-powered drives, i.e. operated by propellant charge energy, e.g. couplings, clutches, energy accumulators [5]
9/19	. . . . . feeding from a magazine mounted in the stock [5]	9/50	. External power or control systems [5]
9/20	. . . . . sliding, e.g. reciprocating [5]	9/51	. . Boosters, i.e. externally-powered motors [5]
9/21	. . . . . in a vertical direction (F41A 9/23 takes precedence) [5]	9/52	. Arrangements for changing from automatic or magazine-loading to hand-loading [5]
9/22	. . . . . in a horizontal direction (F41A 9/23 takes precedence) [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]
- 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 to 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 to 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 to 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 to 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 to 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 to 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]
- 19/46 Arrangements for the selection of automatic or semi-automatic fire [5]
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- 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]	27/10	. . . Bearings for supporting a pivoting gun in a wall, e.g. a turret wall [5]
23/46	. Trail spades [5]	27/12	. . . Brakes or locks for blocking traversing or elevating gear in a fixed position [5]
23/48	. . elastic [5]	27/14	. . . Central-pivot bearings [5]
23/50	. Travelling locks; Brakes for holding the gun platform in a fixed position during transport [5]	27/16	. . . using raceway bearings, e.g. for supporting the turret [5]
23/52	. Base plates for gun mountings [5]	27/18	. . for gun turrets (F41A 27/08 takes precedence) [5]
23/54	. . for mortars [5]	27/20	. . . Drives for turret movements [5]
23/56	. Arrangements for adjusting the gun platform in the vertical or horizontal position (F41A 17/10, F41A 17/12 take precedence) [5]	27/22	. . Traversing gear (F41A 27/18 takes precedence) [5]
23/58	. . Hydraulic jacks [5]	27/24	. . Elevating gear (F41A 27/18 takes precedence) [5]
23/60	. . Screw-operated jacks [5]	27/26	. Fluid-operated systems (F41A 27/02, F41A 27/04, F41A 27/30 take precedence) [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]	27/28	. Electrically-operated systems (F41A 27/02, F41A 27/04, F41A 27/30 take precedence) [5]
25/02	. Fluid-operated systems [5]	27/30	. Stabilisation or compensation systems, e.g. compensating for barrel weight or wind force [5]
25/04	. . adjustable [5]	29/00	Cleaning or lubricating arrangements (injecting fluids into barrels or cartridge chambers F41A 13/04) [5]
25/06	. Friction-operated systems [5]	29/02	. Scrapers or cleaning rods [5]
25/08	. . adjustable [5]	29/04	. Lubricating, oiling or greasing means, e.g. operating during use [5]
25/10	. Spring-operated systems [5]	31/00	Testing arrangements (testing mounts F41A 23/16) [5]
25/12	. . using coil springs [5]	31/02	. for checking gun barrels [5]
25/14	. . . adjustable [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]
25/16	. Hybrid systems [5]	33/02	. Light- or radiation-emitting guns [5]
25/18	. . Hydroelastic systems [5]	33/04	. Acoustical simulation of gun fire, e.g. by pyrotechnic means [5]
25/20	. . Hydropneumatic systems [5]	33/06	. Recoil simulators [5]
25/22	. Bearing arrangements for the reciprocating gun-mount or barrel movement [5]	35/00	Accessories or details not otherwise provided for [5]
25/24	. . using ball or roller bearings [5]	35/02	. Dust- or weather-protection caps or covers (protecting-caps for trigger guards F41A 17/54) [5]
25/26	. Assembling or dismounting recoil elements or systems [5]	35/04	. . Muzzle covers [5]
27/00	Gun mountings permitting traversing or elevating movement, e.g. gun carriages [5]	35/06	. Adaptation of guns to both right and left hand use [5]
27/02	. Control systems for preventing interference between the moving gun and the adjacent structure [5]	99/00	Subject matter not provided for in other groups of this subclass [8]
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]		

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

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

Attention is drawn to the definitions in Note (2) following the title of class F41. [5]

Subclass Index

KINDS OF SMALLARMS	BUTTS, BUTT PLATES, STOCKS	23/00
Pistols, revolvers	ACCESSORIES; OTHER DETAILS	27/00
Shoulder-fired smallarms	WEARING OR CARRYING-MEANS	33/00
Other smallarms, e.g. hidden, muzzle-loaded, underwater		

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]	3/14	. 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]
3/02	. Signal pistols, e.g. Very pistols	3/16	. . Hinge-frame revolvers [5]
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]		

7/00	Shoulder-fired smallarms, e.g. rifles, carbines, shotguns (specially adapted for underwater use F41C 9/06) [3]	23/14	Adjustable stock or stock parts, i.e. adaptable to personal requirements, e.g. length, pitch, cast or drop [5]
7/02	Pump-action guns, i.e. guns having a reciprocating handgrip beneath the barrel for loading or cocking	23/16	Forestocks; Handgrips; Hand guards (pump-action guns F41C 7/02) [5]
7/04	with reciprocating handgrip under the buttstock for loading or cocking	23/18	characterised by the material used (F41C 23/08 takes precedence) [5]
7/06	Lever-action guns, i.e. guns having a rocking lever for loading or cocking	23/20	Butts; Butt plates; Mountings therefor (F41C 23/08, F41C 23/10 take precedence) [5]
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]	23/22	Stocks having space for the storage of objects [5]
9/00	Other smallarms, e.g. hidden smallarms or smallarms specially adapted for underwater use [3]	27/00	Accessories; Details or attachments not otherwise provided for
9/02	Concealed pistols, e.g. in pencils	27/04	Arrangements for mounting spades or shields (spades <i>per se</i> A01B 1/02; shields <i>per se</i> F41H 5/06)
9/04	Walking-stick guns	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)
9/06	Smallarms specially adapted for underwater use	27/16	Smallarms combined with thrusting or cutting weapons (thrusting or cutting weapons, other than bayonets F41B 13/00); Bayonets; Bayonet mounts [5]
9/08	Muzzle-loading smallarms; Smallarms with flintlock mechanisms; Accessories therefor [5]	27/18	. . Bayonets; Bayonet mounts [5]
Details		27/20	Attachments for wire cutting [5]
23/00	Butts; Butt plates; Stocks	27/22	Balancing or stabilising arrangements [5]
23/02	Attachment of slings	33/00	Means for wearing or carrying smallarms
23/04	Folding or telescopic stocks or stock parts (articulated or collapsible guns F41A 11/04) [5]	33/02	Holsters, i.e. cases for pistols having means for being carried or worn, e.g. at the belt or under the arm
23/06	Stocks specially adapted for recoil reduction [5]	33/04	. . Special attachments therefor
23/08	. . Recoil absorbing pads [5]	33/06	Containers for carrying smallarms, e.g. safety boxes, gun cases (F41C 33/02 takes precedence) [5]
23/10	Stocks or grips for pistols, e.g. revolvers (F41C 23/12 takes precedence) [5]	33/08	Handles for carrying smallarms [5]
23/12	Auxiliary stocks for stabilising, or for transforming pistols, e.g. revolvers, into shoulder-fired guns [5]		

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

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	ARMoured OR ARMED VEHICLES..... 7/00
Personal protection gear 1/00	FLAME, GAS OR CHEMICAL WARFARE 9/00
Armour plates, shields 5/00	OTHER ATTACK OR DEFENCE MEANS..... 11/00, 13/00
CAMOUFLAGE..... 3/00	

1/00	Personal protection-gear (shields for personal use F41H 5/08; for protection against chemical warfare A62B)	7/04	. . . Armour construction (in general F41H 5/00)
1/02	. . . Armoured or projectile- or missile-resistant garments; Composite protection fabrics	7/10	. . . Mine-laying land vehicles
1/04	. . . Protection helmets (crash helmets A42B 3/00)	9/00	Equipment for attack or defence by spreading flame, gas, or smoke; Chemical warfare equipment (protection against chemicals A62B)
1/06	. . . of steel; Steel head-shields	9/02	. . . Flame-throwing apparatus (for destroying vegetation A01M 15/00)
1/08	. . . of plastics; Plastic head-shields	9/04	. . . Gas blowing apparatus, e.g. for tear gas (F41H 9/10 takes precedence)
3/00	Camouflage, i.e. means or methods for concealment or disguise (for vessels B63G 8/34, B63G 13/02)	9/06	. . . Apparatus for generating artificial fog or smoke screens (smoke-pot projectors, e.g. arranged on vehicles, F42B 5/155)
3/02	. . . Covers, e.g. screens, nets (making thereof, <u>see</u> the relevant classes, e.g. D04)	9/08	. . . Smoke-pots without propulsive charge, i.e. stationary [5]
5/00	Armour; Armour plates (processes for manufacturing or treating B21, C21)	9/10	. . . Hand-held or body-worn self-defence devices using repellant gases or chemicals [5]
5/007	. . . Reactive armour; Dynamic armour [5]	11/00	Defence installations; Defence devices (constructional aspects, <u>see</u> section E, e.g. E04H 9/04)
5/013	. . . Mounting or securing armour plates [5]	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)
5/02	. . . Plate construction	11/04	. . . Aerial barrages
5/04	. . . composed of more than one layer	11/05	. . . Net barriers for harbour defence
5/06	. . . Shields (in ships B63G 9/00; in aircraft B64D 7/00)	11/06	. . . Gun-traps
5/08	. . . for personal use	11/08	. . . Barbed-wire obstacles; Barricades; Stanchions; Tank traps; Vehicle-impeding devices; Caltrops
5/10	. . . . Spade bayonets, i.e. usable as a spade, bayonet, or cover against rifle fire	11/10	. . . Dispensing-apparatus therefor, e.g. devices for dispensing and reeling barbed wire
5/12	. . . for smallarms; for light-rocket launchers	11/11	. . . Clearing or neutralising barbed-wire obstacles (smallarm attachments for wire cutting F41C 27/20) [5]
5/14	. . . . Wheeled armoured shields	11/12	. . . Means for clearing land minefields (sweeping mines B63G)
5/16	. . . for ordnance	11/14	. . . with electric explosive cable, e.g. mine-clearing snakes
5/18	. . . Rotating shields	11/16	. . . Self-propelled mine-clearing vehicles
5/20	. . . Turrets	13/00	Means of attack or defence not otherwise provided for
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]		

F41J TARGETS; TARGET RANGES; BULLET CATCHERS

Subclass Index

TARGETS

Stationary; movable; for arrows or
darts 1/00; 7/00,
9/00; 3/00

Reflective, active 2/00

TARGET-HIT INDICATORS OR

RECORDERS 5/00

TARGET STANDS; TARGET RANGES 1/10; 1/18

1/00 Targets, e.g. stationary (F41J 2/00, F41J 7/00, F41J 9/00 take precedence; for arrows or darts F41J 3/00) [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

1/12 . Bullet catchers; Bullet traps

1/14 . . combined with targets

1/18 . Target ranges

1/20 . . Safety means therefor

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 to 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]