

CPC**COOPERATIVE PATENT CLASSIFICATION****F41A****FUNCTIONAL FEATURES OR DETAILS COMMON TO BOTH SMALLARMS AND ORDNANCE, e.g. CANNONS; MOUNTINGS FOR SMALLARMS OR ORDNANCE****NOTE**

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.

Such features or details are classified in this subclass, even if they are stated to be applied only to smallarms or only to ordnance.

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

F41A 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](#))

F41A 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

F41A 1/04

- . Missile propulsion using the combustion of a liquid, [loose powder](#) or gaseous fuel, e.g. hypergolic fuel

F41A 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{ [adjusting the range by using gas-relieving ports in the barrel F41A 21/28](#) }

F41A 1/08

- . Recoilless guns, i.e. guns having propulsion means producing no recoil

F41A 1/10

- .. a counter projectile being used to balance recoil

F41A 3/00

Breech mechanisms, e.g. locks

F41A 3/02

- . Block action, i.e. the main breech opening movement being transverse to the barrel axis

F41A 3/04

- .. with pivoting breech-block

F41A 3/06

- ... about a horizontal axis transverse to the barrel axis at the rear of the block([F41A 3/08 takes precedence](#))

F41A 3/08

- ... carrying a rotably mounted obturating plug of the screw-thread or the interrupted-thread type([F41A 3/30 takes precedence](#))

F41A 3/10

- .. with sliding breech-block, e.g. vertically

F41A 3/12

- . Bolt action, i.e. the main breech opening movement being parallel to the barrel axis

F41A 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

F41A 3/16

- ... the locking elements effecting a rotary movement about the barrel axis, e.g. rotating cylinder bolt locks

F41A 3/18

- hand-operated

F41A 3/20	.....	Straight-pull operated bolt locks, i.e. the operating hand effecting only a straight movement parallel to the barrel axis
F41A 3/22	.....	the locking being effected by rotating the operating handle or lever transversely to the barrel axis
F41A 3/24	.....	the locking elements forming part of the operating handle or lever
F41A 3/26	....	semi-automatically or automatically operated, e.g. having a slidable bolt-carrier and a rotatable bolt
F41A 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
F41A 3/30	....	Interlocking means, e.g. locking lugs, screw threads
F41A 3/32	...	the bolt being rocked about a notional axis transverse to the barrel axis
F41A 3/34	...	the bolt additionally effecting a sliding movement transverse to the barrel axis
F41A 3/36	..	Semi-rigid bolt locks, i.e. having locking elements movably mounted on the bolt or on the barrel or breech housing
F41A 3/38	...	having rocking locking elements, e.g. pivoting levers or vanes
F41A 3/40	....	mounted on the bolt(F41A 3/42 takes precedence)
F41A 3/42	....	hand-operated
F41A 3/44	...	having sliding locking elements, e.g. balls, rollers
F41A 3/46	....	mounted on the bolt(F41A 3/48 takes precedence)
F41A 3/48	....	hand-operated
F41A 3/50	...	Toggle-joint locks, e.g. crank-operated
F41A 3/52	....	hand-operated
F41A 3/54	..	Bolt locks of the unlocked type, i.e. being inertia operated
F41A 3/56	...	the bolt being provided with an additional slidable mass
F41A 3/58	.	Breakdown breech mechanisms, e.g. for shotguns
F41A 3/60	.	Breech mechanisms for guns having two or more barrels(F41A 3/58 takes precedence ; for revolving-cannon guns F41F 1/10)
F41A 3/62	.	using combustion gas pressure for adding to the mechanical locking action, or for delaying breech opening movement
F41A 3/64	.	Mounting of breech-blocks; Accessories for breech-blocks or breech-block mountings
F41A 3/66	..	Breech housings or frames; Receivers
F41A 3/68	..	Bolt stops, i.e. means for limiting bolt opening movement
F41A 3/70	..	Anti-rebound arrangements, i.e. preventing rebound of the bolt out of the firing position;{(Safeties for locking the breech-block or bolt in a safety position F41A 17/42)}
F41A 3/72	..	Operating handles or levers; Mounting thereof in breech-blocks or bolts{(F41C 7/02 , F41C 7/06 take precedence)}
F41A 3/74	..	Obturating or packing devices for gas leak prevention in breech mechanisms
F41A 3/76	...	especially 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
F41A 3/78	..	Bolt buffer or recuperator means
F41A 3/80	...	Adjustable spring buffers

- F41A 3/82 . . . Coil spring buffers([F41A 3/80 takes precedence](#))
- F41A 3/84 mounted within the gun stock
- F41A 3/86 mounted under{or above}the barrel
- F41A 3/88 mounted around the barrel
- F41A 3/90 . . . Fluid buffers{([F41A 3/62 takes precedence](#))}
- F41A 3/92 adjustable
- F41A 3/94 in combination with spring buffers

F41A 5/00 Mechanisms or systems operated by propellant charge energy for automatically opening the lock

- F41A 5/02 . recoil-operated
- F41A 5/04 . . the barrel being tilted during recoil
- F41A 5/06 . . the barrel being rotated about its longitudinal axis during recoil
- F41A 5/08 . . having an accelerator lever acting on the breech-block or bolt during the opening movement
- F41A 5/10 . . having a movable inertia weight{e.g. for storing energy}
- F41A 5/12 . . . mounted in a gun having a fixed barrel
- F41A 5/14 . . Barrel stops, i.e. devices for holding the recoiling barrel in a predetermined position, e.g. the recoil position
- F41A 5/16 . . having a barrel moving forwardly after the firing of a shot
- F41A 5/18 . gas-operated
- F41A 5/20 . . using a gas piston arranged concentrically around the barrel
- F41A 5/22 . . having two or more gas pistons
- F41A 5/24 . . by direct action of gas pressure on bolt or locking elements
- F41A 5/26 . . Arrangements or systems for bleeding the gas from the barrel([F41A 5/20 to F41A 5/24 take precedence](#))
- F41A 5/28 . . . Adjustable systems
- F41A 5/30 . Gas- or recoil-operated, e.g. selection of gas- or recoil-operated systems
- F41A 5/32 . Energy accumulator systems, i.e. systems for opening the breech-block by energy accumulated during barrel or gas piston recoil
- F41A 5/34 . . with spring accumulators
- F41A 5/36 . . with fluid accumulators

F41A 7/00 Auxiliary mechanisms for bringing the breech-block or bolt or the barrel to the starting position before automatic firing; Drives for externally-powered guns; Remote-controlled gun chargers

- F41A 7/02 . Machine gun rechargers, e.g. manually operated([F41A 3/72 takes precedence](#))
- F41A 7/04 . . fluid operated
- F41A 7/06 . . electrically operated
- F41A 7/08 . Drives for externally-powered guns, i.e. drives for moving the breech-block or bolt by an external force during automatic firing
- F41A 7/10 . . using a rotating cylindrical drum having a camming groove([F41F 1/10 takes precedence](#))

F41A 9/00	Feeding or loading of ammunition ({ conveying ammunition through pipes by the action of flowing gases B65G 51/025 } ; adaptations for feeding or loading missiles from magazines in air guns F41B11/02); Magazines; Guiding means for the extracting of cartridges (cartridge extractors or ejectors F41A 15/00)
F41A 9/01	. Feeding of unbelted ammunition
F41A 9/02	.. using wheel conveyers, e.g. star-wheel-shaped conveyers
F41A 9/03	.. using screw or rotary-spiral conveyers
F41A 9/04	.. using endless-chain belts carrying a plurality of ammunition
F41A 9/05	... in tandem sequence
F41A 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
F41A 9/07	... Reciprocating conveyers, i.e. conveyers pushing a plurality of ammunition during the feeding stroke
F41A 9/09	... Movable ammunition carriers or loading trays, e.g. for feeding from magazines(locking of ammunition in ammunition containers or loading trays F42B 39/22)
F41A 9/10	.... pivoting or swinging
F41A 9/11	..... in a horizontal plane
F41A 9/12	..... mounted within a smallarm
F41A 9/13	..... in a vertical plane
F41A 9/14	..... {which is}transverse to the barrel axis
F41A 9/15	..... mounted within a smallarm
F41A 9/16	..... {which is}parallel to the barrel axis
F41A 9/17	..... mounted within a smallarm
F41A 9/18	..... feeding from a{tubular}magazine under the barrel
F41A 9/19	..... feeding from a{tubular}magazine mounted in the stock
F41A 9/20	.... sliding, e.g. reciprocating
F41A 9/21	..... in a vertical direction(F41A 9/23 takes precedence)
F41A 9/22	..... in a horizontal direction(F41A 9/23 takes precedence)
F41A 9/23	..... mounted within a smallarm
F41A 9/24	.. using a movable magazine or clip as feeding element
F41A 9/25	... using a sliding clip
F41A 9/26	... using a revolving drum magazine
F41A 9/27	.... in revolver-type guns
F41A 9/28	..... of smallarm type(in revolvers F41C 3/14)
F41A 9/29	. Feeding of belted ammunition
F41A 9/30	.. Sprocket-type belt transporters
F41A 9/31	... with cartridge stripping means
F41A 9/32	.. Reciprocating-slide-type belt transporters
F41A 9/33	... with cartridge stripping means
F41A 9/34	.. from magazines(magazines for belted ammunition per se F41A 9/79)

F41A 9/35 . Feeding multibarrel guns

NOTE

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](#) .

F41A 9/36 . . Feed mechanisms for revolving-cannon guns

F41A 9/37 . Feeding two or more kinds of ammunition to the same gun; Feeding from two sides

F41A 9/375 . . {Feeding propellant charges and projectiles as separate units}

NOTE

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](#) to [F41A 9/29](#) .

F41A 9/38 . Loading arrangements, i.e. for bringing the ammunition into the firing position

F41A 9/39 . . Ramming arrangements

F41A 9/40 . . . the breech-block itself being the rammer

F41A 9/41 pushing unbelted ammunition from a box magazine on the gun frame into the cartridge chamber

F41A 9/42 . . . Rammers separate from breech-block

F41A 9/43 Chain rammers

F41A 9/44 Fluid-operated piston rammers

F41A 9/45 . . the cartridge chamber or the barrel as a whole being tiltable{or transversely slidable}between a loading and a firing position{([F41A 9/25](#) and [F41A 9/27](#) take precedence)}

F41A 9/46 . . the cartridge chamber being formed by two complementary elements, movable one relative to the other for loading

F41A 9/47 . . using forwardly-sliding barrels or barrel parts for loading

F41A 9/48 . . Loading by gravitational force

F41A 9/49 . Internally-powered drives, i.e. operated by propellant charge energy, e.g. couplings, clutches, energy accumulators

F41A 9/50 . External power or control systems

F41A 9/51 . . Boosters, i.e. externally-powered motors

F41A 9/52 . Arrangements for changing from automatic or magazine-loading to hand-loading

F41A 9/53 . Charged-condition indicators, i.e. indicating the presence of a cartridge in the cartridge chamber

F41A 9/54 . Cartridge guides, stops or positioners, e.g. for cartridge extraction

F41A 9/55 . . Fixed{or movable}guiding means, mounted on, or near, the cartridge chamber

F41A 9/56 . . Movable guiding means{([F41A 9/55](#) takes precedence)}

F41A 9/57 . . . Flexible chutes, e.g. for guiding belted ammunition from the magazine to the gun

F41A 9/58 . . Cartridge stops; Cartridge positioners

F41A 9/59 . Ejectors for clips or magazines, e.g. when empty

- F41A 9/60 . Empty-cartridge-case or belt-link collectors or catchers([F41A 9/81 takes precedence](#))
- F41A 9/61 . Magazines
- F41A 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](#))
- F41A 9/63 .. specially adapted for releasable connection with other magazines
- F41A 9/64 .. for unbelted ammunition
- F41A 9/65 ... Box magazines having a cartridge follower
- F41A 9/66 Arrangements thereon for charging i.e. reloading([apparatus or tools for reloading of magazines F41A 9/83](#))
- F41A 9/67 having means for depressing the cartridge follower, or for locking it in a depressed position
- F41A 9/68 Plural magazines, e.g. tandem magazines{[Arrangements of cartridges in two or more independent rows or channels which are selectively or sequentially brought into operative position](#)}
- F41A 9/69 characterised by multiple-row or zigzag arrangement of cartridges
- F41A 9/70 Arrangements thereon for discharging, e.g. cartridge followers or discharge throats
- F41A 9/71 Arrangements thereon for varying capacity; Adapters or inserts for changing cartridge size or type
- F41A 9/72 ... Tubular magazines, i.e. magazines containing the ammunition in lengthwise tandem sequence
- F41A 9/73 ... Drum magazines
- F41A 9/74 with radially disposed cartridges
- F41A 9/75 having a spiral cartridge channel
- F41A 9/76 ... Magazines having an endless-chain conveyer
- F41A 9/77 ... Magazines having a screw conveyer
- F41A 9/78 ... Magazines having a reciprocating conveyer
- F41A 9/79 .. for belted ammunition
- F41A 9/80 ... having provision for quick-coupling of the belts of adjacent magazines
- F41A 9/81 ... having provision for collecting belt links or empty cartridge cases
- F41A 9/82 . Reloading{[or unloading](#)}of magazines
- F41A 9/83 .. Apparatus or tools for reloading magazines with unbelted ammunition e.g. cartridge clips
- F41A 9/84 ... Clips
- F41A 9/85 for reloading revolver-type magazines
- F41A 9/86 .. Feeding belted ammunition into magazines
- F41A 9/87 . Ammunition handling dollies or transfer carts([F41A 9/86 takes precedence](#))
- F41A 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](#))**
- F41A 11/02 . Modular concepts, e.g. weapon-family concepts

- F41A 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](#))
- F41A 11/06
 - . . Telescopic guns
- F41A 13/00**
Cooling or heating systems; Blowing-through of gun barrels; Ventilating systems
- F41A 13/02
 - . Heating systems
- F41A 13/04
 - . Injecting fluids into barrels or cartridge chambers([F41A 13/08](#) takes precedence)
- F41A 13/06
 - . Evacuating combustion gas from barrels([F41A 13/10](#) takes precedence)
- F41A 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
- F41A 13/10
 - . Blowers or turbines for evacuating or cooling guns, e.g. driven by combustion gas pressure or recoil
- F41A 13/12
 - . Systems for cooling the outer surface of the barrel([F41A 13/10](#) , [F41A 21/24](#) take precedence)
- F41A 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](#) , { [F41C 9/08](#) }take precedence;{ Means for removing duds or misfires in rocket throwers [F41F 3/058](#) })
- F41A 15/02
 - . for revolver-type guns, e.g. revolvers
- F41A 15/04
 - . specially adapted for cartridge cases being deformed when fired, e.g. of plastics
- F41A 15/06
 - . for breakdown guns
- F41A 15/08
 - . for block-action guns
- F41A 15/10
 - . . of sliding-block type
- F41A 15/12
 - . for bolt-action guns
- F41A 15/14
 - . . the ejector being mounted on or within the bolt;{Extractors per se}
- F41A 15/16
 - . . the ejector being mounted on the breech housing or frame
- F41A 15/18
 - . for guns with forwardly slidable barrels
- F41A 15/20
 - . specially adapted for caseless-ammunition duds
- F41A 15/22
 - . Tools for extracting cartridges
- F41A 17/00**
Safety arrangements, e.g. safeties
- F41A 17/02
 - . Key-operated safeties{([F41A 17/44](#) takes precedence)}
- F41A 17/04
 - . Safeties of the combination-lock type([F41A 17/02](#) takes precedence)
- F41A 17/06
 - . Electric or electromechanical safeties([F41A 17/04](#) , [F41A 17/08](#) take precedence)
- F41A 17/063
 - . . {comprising a transponder}
- F41A 17/066
 - . . {having means for recognizing biometric parameters, e.g. voice control, finger print or palm print control}
- F41A 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)
- F41A 17/10
 - . . Firing mechanisms with elevation stop
- F41A 17/12
 - . . Firing mechanisms with anti-canting safety
- F41A 17/14
 - . Double-loading prevention

- F41A 17/16 . Cook-off prevention, i.e. prevention of spontaneous firing of a cartridge by chamber wall heat
- F41A 17/18 . Hang-fire prevention
- F41A 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](#))
- F41A 17/22 . . acting on the trigger
- F41A 17/24 . . acting on the firing pin
- F41A 17/26 . . acting on the hammer
- F41A 17/28 . . acting on the sear
- F41A 17/30 . Multiple safeties, i.e.{[one safety element](#)}acting on at least one element of the firing mechanism and at least one other element of the gun, e.g. the moving barrel
- F41A 17/32 . . the other element being the breech-block or bolt
- F41A 17/34 . Magazine safeties
- F41A 17/36 . . locking the gun{[automatically](#)}in a safety condition when the magazine is empty or removed{([F41A 17/44 takes precedence](#))}
- F41A 17/38 . . {[Magazine mountings, e.g. for](#)}locking the magazine in the gun
- F41A 17/40 . Last-round safeties([F41A 17/34 takes precedence](#))
- F41A 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](#)) {([anti-rebound arrangements F41A 3/70](#))}
- F41A 17/44 . Safety plugs, e.g. for plugging-up cartridge chambers,{[barrels, magazine spaces](#)}
- F41A 17/46 . Trigger safeties, i.e. means for preventing trigger movement([F41A 17/02 to F41A 17/40 take precedence](#))
- F41A 17/48 . . Automatically operated trigger safeties, i.e. operated by breech opening or closing movement
- F41A 17/50 . . . by breakdown action
- F41A 17/52 . . Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns
- F41A 17/54 . . Protecting-caps for trigger guards; Trigger locking pieces mounted on, or within, the trigger guard
- F41A 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](#))
- F41A 17/58 . . automatically operated, i.e. operated by breech opening or closing movement
- F41A 17/60 . . . by breakdown action
- F41A 17/62 . . thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns
- F41A 17/64 . Firing-pin safeties, i.e. means for preventing movement of slidably- mounted strikers([F41A 17/02 to F41A 17/40 take precedence](#))
- F41A 17/66 . . automatically operated, i.e. operated by breech opening or closing movement
- F41A 17/68 . . . by breakdown action
- F41A 17/70 . . Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns
- F41A 17/72 . . trigger-operated, i.e. the movement of the trigger bringing a firing-pin safety into inoperative position during the firing

- F41A 17/74 . Hammer safeties, i.e. means for preventing the hammer from hitting the cartridge or the firing pin([F41A 17/02](#) to [F41A 17/40](#) take precedence)
- F41A 17/76 . . automatically operated, i.e. operated by breech opening or closing movement
- F41A 17/78 . . . by breakdown action
- F41A 17/80 . . Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns
- F41A 17/82 . . trigger-operated, i.e. the movement of the trigger bringing a hammer safety into inoperative position during firing

- F41A 19/00 Firing or trigger mechanisms; Cocking mechanisms**
- F41A 19/01 . Counting means indicating the number of shots fired
- F41A 19/02 . . Burst limiters([F41A 19/67](#) takes precedence)
- F41A 19/03 . Shot-velocity control([F41A 3/78](#) , [F41A 5/28](#) , [F41A 19/05](#) , [F41A 19/66](#) take precedence)
- F41A 19/04 . . by regulating the time of release of the firing pin or hammer
- F41A 19/05 . Synchronising for firing through the propeller of an aircraft
- F41A 19/06 . Mechanical firing mechanisms,{e.g. counterrecoil firing, recoil actuated firing mechanisms} ([F41A 19/01](#) to [F41A 19/05](#) , [F41A 19/59](#) take precedence)
- F41A 19/07 . . press-button actuated, e.g. with thumb rest
- F41A 19/08 . . remote actuated; lanyard actuated
- F41A 19/09 . . Auxiliary trigger devices([F41A 19/08](#) takes precedence)
- F41A 19/10 . . Triggers; Trigger mountings
- F41A 19/11 . . Trigger guards; Trigger-guard mountings([F41A 19/15](#) takes precedence)
- F41A 19/12 . . Sear; Sear mountings
- F41A 19/13 . . Percussion or firing pins, i.e. fixed or slidably-mounted striker elements; Mountings therefor{([F41A 19/26](#) takes precedence)}
- F41A 19/14 . . Hammers, i.e. pivotably-mounted striker elements; Hammer mountings
- F41A 19/15 . . Modular firing mechanism units
- F41A 19/16 . . Adjustable firing mechanisms; Trigger mechanisms with adjustable trigger pull([F41A 19/17](#) takes precedence)
- F41A 19/17 . . Hair-trigger mechanisms
- F41A 19/18 . . for multibarrel guns{or multiple guns} ([F41A 19/68](#) takes precedence)
- F41A 19/183 . . . {for multiple guns, i.e. a plurality of guns being actuated by a single firing mechanism}
- F41A 19/186 . . . {having only one striker element and more than one trigger, each trigger acting on a single element(firing mechanisms having only one trigger and only one striker element [F41A 19/22](#))}
- F41A 19/19 . . . with single-trigger firing possibility
- F41A 19/20 Double-trigger arrangements having the possibility of single-trigger actuation
- F41A 19/21 having only one trigger
- F41A 19/22 and only one striker element
- F41A 19/23 rotatable about an axis parallel to the barrel axis for firing subsequent barrels

- F41A 19/24 .. Release-trigger mechanisms, i.e. the striker element being released during the return movement of the trigger subsequent to trigger pull
- F41A 19/25 .. having only slidably-mounted striker elements, i.e. percussion or firing pins
- F41A 19/26 ... the percussion or firing pin and the breech-block or bolt forming one piece([F41A 19/34 takes precedence](#))
- F41A 19/27 ... the percussion or firing pin being movable relative to the breech-block
- F41A 19/28 propelled by a cam or lever when the breech-block or bolt arrives in a closing position
- F41A 19/29 propelled by a spring under tension
- F41A 19/30 in bolt-action guns
- F41A 19/31 Sear arrangements therefor([F41A 19/33 takes precedence](#))
- F41A 19/32 for catching the percussion or firing pin after each shot, i.e. in single-shot or semi-automatic firing mode
- F41A 19/33 Arrangements for the selection of automatic or semi-automatic fire
- F41A 19/34 Cocking mechanisms
- F41A 19/35 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
- F41A 19/36 in block-action guns
- F41A 19/37 Cocking mechanisms
- F41A 19/38 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
- F41A 19/39 Cocking{or firing}mechanisms for other types of guns, e.g. fixed breech-block types, forwardly-slidable barrel types
- F41A 19/40 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
- F41A 19/41 for breakdown guns
- F41A 19/42 .. having at least one hammer
- F41A 19/43 ... in bolt-action guns
- F41A 19/44 Sear arrangements therefor([F41A 19/46 takes precedence](#))
- F41A 19/45 for catching the hammer after each shot, i.e. in single-shot or semi-automatic firing mode
- F41A 19/46 Arrangements for the selection of automatic or semi-automatic fire
- F41A 19/47 Cocking mechanisms
- F41A 19/48 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
- F41A 19/49 ... in block-action guns
- F41A 19/50 Cocking mechanisms
- F41A 19/51 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
- F41A 19/52 ... Cocking{or firing}mechanisms for other types of guns, e.g. fixed breech-block types, revolvers
- F41A 19/53 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
- F41A 19/54 for breakdown guns

- F41A 19/55 . Fluid-operated firing mechanisms
- F41A 19/56 . . Ignition of the propellant charge by contact with air heated by adiabatic compression
- F41A 19/57 . Firing mechanisms operating with primer cartridge
- F41A 19/58 . Electric firing mechanisms([F41A 17/10](#) , [F41A 17/12](#) take precedence)
- F41A 19/59 . . Electromechanical firing mechanisms, i.e. the mechanical striker element being propelled or released by electric means
- F41A 19/60 . . characterised by the means for generating electric energy
- F41A 19/61 . . . Inductive generators{([F41A 19/63](#) takes precedence)}
- F41A 19/62 . . . Piezo-electric generators
- F41A 19/63 . . having means for contactless transmission of electric energy, e.g. by induction, by sparking gap
- F41A 19/64 . . for automatic or burst-firing mode
- F41A 19/65 . . . for giving ripple fire, i.e. using electric sequencer switches for timed multiple-charge launching, e.g. for rocket launchers
- F41A 19/66 . . . Electronic shot-velocity control([F41A 19/65](#) takes precedence)
- F41A 19/67 . . . Burst limiters
- F41A 19/68 . . for multibarrel guns(or multibarrel rocket launchers or multicannisters) ([F41A 19/65](#) takes precedence)
- F41A 19/69 . . Electric contacts or switches peculiar thereto([F41A 19/65](#) takes precedence)
- F41A 19/70 . . . Electric firing pins; Mountings therefor
- F41A 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](#))
- F41A 21/02 . Composite barrels, i.e. barrels having multiple layers, e.g. of different materials
- F41A 21/04 . . Barrel liners
- F41A 21/06 . Plural barrels
- F41A 21/08 . . Barrel junctions
- F41A 21/10 . Insert barrels, i.e. barrels for firing reduced calibre ammunition and being mounted within the normal barrels
- F41A 21/12 . Cartridge chambers; Chamber liners([F41A 3/74](#) , [F41A 9/46](#) , [F41A 21/04](#) take precedence)
- F41A 21/14 . . Arrangement of cartridge chambers lateral to the barrel axis
- F41A 21/16 . Barrels or gun tubes characterised by the shape of the bore
- F41A 21/18 . . Grooves-Rifling
- F41A 21/20 . Barrels or gun tubes characterised by the material([F41A 21/02](#) takes precedence)
- F41A 21/22 . Barrels which have undergone surface treatment, e.g. phosphating{([F41A 21/44](#) takes precedence)}
- F41A 21/24 . Barrels or gun tubes with fins or ribs, e.g. for cooling([F41G 1/42](#) takes precedence)
- F41A 21/26 . specially adapted for recoil reinforcement, e.g. for training purposes
- F41A 21/28 . Gas-expansion chambers; Barrels provided with gas-relieving ports([F41A 1/06](#) , [F41A 13/08](#) { and [F41A 21/36](#) }take precedence)

- F41A 21/30 . Silencers
- F41A 21/32 . Muzzle attachments or glands([F41A 21/26](#) , [F41A 21/30](#) , [F41A 21/46](#) take precedence; { for projectile velocity measurements [G01P 3/665](#) , [G01P 3/685](#) })
- F41A 21/325 .. {Mountings for muzzle attachments}
- F41A 21/34 .. Flash dampers
- F41A 21/36 .. for recoil reduction([recoil reduction arrangements in general F41A 25/00](#));{Stabilisators; Compensators, e.g. for muzzle climb prevention}
- F41A 21/38 ... adjustable,{i.e. the vent holes or the vent area being adjustable}
- F41A 21/40 .. Chokes for shotguns,{e.g. automatic chokes}
- F41A 21/42 ... {manually}adjustable
- F41A 21/44 . Insulation jackets; Protective jackets
- F41A 21/46 . Barrels having means for separating sabots from projectiles
- F41A 21/48 . Barrel mounting means, e.g. releasable mountings for replaceable barrels
- F41A 21/481 .. {using partial or interrupted threads, e.g. bayonet-type mountings}
- F41A 21/482 .. {using continuous threads on the barrel}
- F41A 21/484 .. {using interlocking means, e.g. by sliding pins}
- F41A 21/485 .. {using screws or bolts}
- F41A 21/487 .. {using friction, e.g. by clamping a barrel surface}
- F41A 21/488 .. {Mountings specially adapted for pistols or revolvers}

- F41A 23/00** **Gun mountings, e.g. on vehicles; Disposition of guns on vehicles([F41A 25/00](#) , [F41A 27/00](#) take precedence)**
- F41A 23/005 . {Locks for connecting guns to their mountings([F41A 23/50](#) takes precedence)}
- F41A 23/02 . Mountings without wheels

- NOTE**
- Shooting stands for hunting [A01M 31/02](#)**

- F41A 23/04 .. Unipods
- F41A 23/06 ... adjustable
- F41A 23/08 .. Bipods
- F41A 23/10 ... adjustable
- F41A 23/12 .. Tripods;{Mountings having at least three legs}
- F41A 23/14 ... adjustable
- F41A 23/16 .. Testing mounts
- F41A 23/18 .. Rests for supporting smallarms in non-shooting position([racks for storage A47B 81/00](#) ; [racks in vehicles { B60R 7/14 }](#))
- F41A 23/20 . for disappearing guns
- F41A 23/22 .. on board of submarines
- F41A 23/24 . Turret gun mountings([feeding, loading or guiding ammunition F41A 9/00](#) ; [mechanical elevating or traversing systems for turret guns F41A 27/18](#))
- F41A 23/26 . Mountings for transport only; Loading or unloading arrangements for guns for use with carrier vehicles([F41A 23/50](#) takes precedence)

- F41A 23/28 . Wheeled-gun mountings; Endless-track gun mountings
- F41A 23/30 . . the wheels being liftable from the ground for firing
- F41A 23/32 . . with split trails([F41A 23/30](#) , [F41A 23/46 takes precedence](#))
- F41A 23/34 . on wheeled or endless-track vehicles
- F41A 23/36 . . on trailers([F41A 23/42 takes precedence](#))
- F41A 23/38 . . on motor-cycles
- F41A 23/40 . . on rail vehicles
- F41A 23/42 . . for rocket throwers
- F41A 23/44 . on sledges
- F41A 23/46 . Trail spades
- F41A 23/48 . . elastic
- F41A 23/50 . Travelling locks; Brakes for holding the gun platform in a fixed position during transport
- F41A 23/52 . Base plates for gun mountings
- F41A 23/54 . . for mortars
- F41A 23/56 . Arrangements for adjusting the gun platform in the vertical or horizontal position([F41A 17/10](#) , [F41A 17/12 take precedence](#); { [ground engaging vehicle fittings for lifting or supporting it B60S 9/04](#) ; supports for mobile cranes [B66C 23/78](#) })
- F41A 23/58 . . Hydraulic jacks
- F41A 23/60 . . Screw-operated jacks

- F41A 25/00** **Gun mountings permitting recoil or return to battery, e.g. gun cradles; Barrel buffers or brakes([recoilless guns F41A 1/08](#))**
- F41A 25/02 . Fluid-operated systems
- F41A 25/04 . . adjustable,{[e.g. in relation to the elevation of the gun](#)}
- F41A 25/06 . Friction-operated systems
- F41A 25/08 . . adjustable
- F41A 25/10 . Spring-operated systems
- F41A 25/12 . . using coil springs
- F41A 25/14 adjustable
- F41A 25/16 . Hybrid systems
- F41A 25/18 . . Hydroelastic systems
- F41A 25/20 . . Hydropneumatic systems
- F41A 25/22 . Bearing arrangements for the reciprocating gun-mount or barrel movement
- F41A 25/24 . . using ball or roller bearings
- F41A 25/26 . Assembling or dismounting recoil elements or systems

- F41A 27/00** **Gun mountings permitting traversing or elevating movement, e.g. gun carriages**
- F41A 27/02 . Control systems for preventing interference between the moving gun and the adjacent structure
- F41A 27/04 . Scatter-fire arrangements, i.e. means for oscillating guns automatically during firing
- F41A 27/06 . Mechanical systems([F41A 27/02](#) , [F41A 27/04](#) , [F41A 27/30 take precedence](#))

- F41A 27/08 . . . Bearings, e.g. trunnions; Brakes or blocking arrangements
- F41A 27/10 . . . Bearings for supporting a pivoting gun in a wall, e.g. a turret wall
- F41A 27/12 . . . Brakes or locks for blocking traversing or elevating gear in a fixed position
- F41A 27/14 . . . Central-pivot bearings
- F41A 27/16 . . . using raceway bearings, e.g. for supporting the turret
- F41A 27/18 . . for gun turrets([F41A 27/08 takes precedence](#))
- F41A 27/20 . . . Drives for turret movements
- F41A 27/22 . . Traversing gear([F41A 27/18 takes precedence](#))
- F41A 27/24 . . Elevating gear([F41A 27/18 takes precedence](#))
- F41A 27/26 . Fluid-operated systems([F41A 27/02](#) , [F41A 27/04](#) , [F41A 27/30 take precedence](#))
- F41A 27/28 . Electrically-operated systems([F41A 27/02](#) , [F41A 27/04](#) , [F41A 27/30 take precedence](#))
- F41A 27/30 . Stabilisation or compensation systems, e.g. compensating for barrel weight or wind force([on the barrel](#))

- F41A 29/00** **Cleaning or lubricating arrangements**([injecting fluids into barrels or cartridge chambers \[F41A 13/04\]\(#\) ; { ammunition for cleaning purposes \[F42B 5/24\]\(#\) }](#))
- F41A 29/02 . Scrapers or cleaning rods
- F41A 29/04 . Lubricating, oiling or greasing means, e.g operating during use

- F41A 31/00** **Testing arrangements**([testing mounts \[F41A 23/16\]\(#\)](#))
- F41A 31/02 . for checking gun barrels

- F41A 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 \[F41G 3/26\]\(#\) ; { shooting games \[A63F 9/02\]\(#\) ; military simulation \[G09B 9/003\]\(#\) }](#))
- F41A 33/02 . Light- or radiation-emitting guns;([Light- or radiation-sensitive guns; Cartridges carrying light emitting sources, e.g. laser](#))
- F41A 33/04 . Acoustical simulation of gun fire, e.g. by pyrotechnic means
- F41A 33/06 . Recoil simulators

- F41A 35/00** **Accessories or details not otherwise provided for**
- F41A 35/02 . Dust- or weather-protection caps or covers([protecting-caps for trigger guards \[F41A 17/54\]\(#\)](#))
- F41A 35/04 . . Muzzle covers
- F41A 35/06 . Adaptation of guns to both right and left hand use

- F41A 99/00** **Subject matter not provided for in other groups of this subclass**