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)

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

1/04 - Missile propulsion using the combustion of a liquid, (loose powder) or gaseous fuel, e.g. hypergolic fuel

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))

1/08 - Recoilless guns, i.e. guns having propulsion means producing no recoil

1/10 - a counter projectile being used to balance recoil

3/00 - Breach mechanisms, e.g. locks

3/02 - Block action, i.e. the main breach opening movement being transverse to the barrel axis

3/04 - with pivoting breach-block

3/06 - about a horizontal axis transverse to the barrel axis at the rear of the block (F41A 3/08 takes precedence)

3/08 - carrying a rotably mounted obturating plug of the screw-thread or the interrupted-thread type (F41A 3/30 takes precedence)

3/10 - with sliding breach-block, e.g. vertically

3/12 - Bolt action, i.e. the main breach opening movement being parallel to the barrel axis
Mechanisms or systems operated by propellant charge energy for automatically opening the lock

5/00

5/02 . . . recoil-operated
5/04 . . . the barrel being tilted during recoil
5/06 . . . the barrel being rotated about its longitudinal axis during recoil
5/08 . . . having an accelerator lever acting on the breech-block or bolt during the opening movement
5/10 . . . having a movable inertia weight [ e.g. for storing energy ]
5/12 . . . mounted in a gun having a fixed barrel
5/14 . . . Barrel stops, i.e. devices for holding the recoiling barrel in a predetermined position, e.g. the recoil position
5/16 . . . having a barrel moving forwardly after the firing of a shot
5/18 . . . gas-operated

5/20 . . . using a gas piston arranged concentrically around the barrel
5/22 . . . having two or more gas pistons
5/24 . . . by direct action of gas pressure on bolt or locking elements
5/26 . . . Arrangements or systems for bleeding the gas from the barrel ( F41A 5/20 - F41A 5/24 take precedence )
5/28 . . . Adjustable systems
5/30 . . . Gas- or recoil-operated, e.g. selection of gas- or recoil-operated systems
5/32 . . . Energy accumulator systems, i.e. systems for opening the breech-block by energy accumulated during barrel or gas piston recoil
5/34 . . . with spring accumulators
5/36 . . . with fluid accumulators

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

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

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 F41B 11/50 ; Magazines; Guiding means for the extracting of cartridges ( cartridge extractors or ejectors F41A 15/000 )

9/01 . . . Feeding of unbelted ammunition
9/02 . . . using wheel conveyors, e.g. star-wheel-shaped conveyors
9/03 . . . using screw or rotary-spiral conveyors
9/04 . . . using endless-chain belts carrying a plurality of ammunition
9/05 . . . in tandem sequence
9/06 . . . using cyclically moving conveyors, i.e. conveyors having ammunition pusher or carrier elements which are emptied or disengaged from the ammunition during the return stroke
9/07 . . . Reciprocating conveyors, i.e. conveyors pushing a plurality of ammunition during the feeding stroke
9/09 . . . Movable ammunition carriers or loading trays, e.g. for feeding from magazines ( { locking of ammunition in ammunition containers or loading trays F42B 39/223 } )
9/10 . . . pivoting or swinging
9/11 . . . in a horizontal plane
9/12 . . . mounted within a smallarm
9/13 . . . in a vertical plane
9/14 . . . { which is } transverse to the barrel axis
9/15 . . . mounted within a smallarm
9/16 . . . { which is } parallel to the barrel axis
9/17 . . . mounted within a smallarm
. . . . . . . feeding from a \{tubular\} magazine under the barrel
9/19 . . . . . . . feeding from a \{tubular\} magazine mounted in the stock
9/20 . . . sliding, e.g. reciprocating
9/21 . . . . . . . in a vertical direction (F41A 9/22 takes precedence)
9/22 . . . . . . . in a horizontal direction (F41A 9/23 takes precedence)
9/23 . . . . . . . mounted within a smallarm
9/24 . . using a movable magazine or clip as feeding element
9/25 . . . using a sliding clip
9/26 . . . using a revolving drum magazine
9/27 . . . . . . . in revolver-type guns
9/28 . . . . . . . of smallarm type (in revolvers F41C 3/14)
9/29 . . . Feeding of belted ammunition
9/30 . . . Sprocket-type belt transporters
9/31 . . . . . . . with cartridge stripping means
9/32 . . . Reciprocating-slide-type belt transporters
9/33 . . . . . . . with cartridge stripping means
9/34 . . . from magazines (magazines for belted ammunition per se F41A 9/79)
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.

9/36 . . . Feed mechanisms for revolving-cannon guns
9/37 . . . Feeding two or more kinds of ammunition to the same gun; Feeding from two sides
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 from two sides, are classified in groups F41A 9/01 - F41A 9/29.

9/38 . . Loading arrangements, i.e. for bringing the ammunition into the firing position
9/39 . . . Ramming arrangements
9/40 . . . the breech-block itself being the rammer
9/41 . . . . . . . pushing unbelted ammunition from a box magazine on the gun frame into the cartridge chamber
9/42 . . . Rammers separate from breech-block
9/43 . . . Chain rammers
9/44 . . . . Fluid-operated piston rammers
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\})
9/46 . . . the cartridge chamber being formed by two complementary elements, movable one relative to the other for loading
9/47 . . . using forwardly-sliding barrels or barrel parts for loading
9/48 . . . Loading by gravitational force
9/49 . . . Internally-powered drives, i.e. operated by propellant charge energy, e.g. couplings, clutches, energy accumulators
9/50 . . . External power or control systems
9/51 . . . Boosters, i.e. externally-powered motors
9/52 . . . Arrangements for changing from automatic or magazine-loading to hand-loading
9/53 . . . Charged-condition indicators, i.e. indicating the presence of a cartridge in the cartridge chamber
9/54 . . . Cartridge guides, stops or positioners, e.g. for cartridge extraction
9/55 . . . . Fixed \{or movable\} guiding means, mounted on, or near, the cartridge chamber
9/56 . . . Movable guiding means (\{F41A 9/55 takes precedence\})
9/57 . . . . Flexible chutes, e.g. for guiding belted ammunition from the magazine to the gun
9/58 . . . Cartridge stops; Cartridge positioners
9/59 . . . Ejectors for clips or magazines, e.g. when empty
9/60 . . . Empty-cartridge-case or belt-link collectors or catchers (F41A 9/81 takes precedence)
9/61 . . . Magazines
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)
9/63 . . . . specially adapted for releasable connection with other magazines
9/64 . . . . for unbelted ammunition
9/65 . . . . Box magazines having a cartridge follower
9/66 . . . . . . . Arrangements thereon for charging, i.e. reloading (apparatus or tools for reloading of magazines F41A 9/83)
9/67 . . . . . . . having means for depressing the cartridge follower, or for locking it in a depressed position
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]
9/69 . . . . . . . characterised by multiple-row or zigzag arrangement of cartridges
9/70 . . . . . . . Arrangements thereon for discharging, e.g. cartridge followers or discharge throats
9/71 . . . . . . . Arrangements thereon for varying capacity; Adapters or inserts for changing cartridge size or type
9/72 . . . . Tubular magazines, i.e. magazines containing the ammunition in lengthwise tandem sequence
9/73 . . . . . . . Drum magazines
9/74 . . . . . . . with radially disposed cartridges
9/75 . . . . . . . having a spiral cartridge channel
9/76 . . . . . . . Magazines having an endless-chain conveyor
9/77 . . . . . . . Magazines having a screw conveyor
9/78 . . . . . . . Magazines having a reciprocating conveyor
9/79 . . . . . . . for belted ammunition
9/80 . . . . . . . having provision for quick-coupling of the belts of adjacent magazines
9/81 . . . . . . . having provision for collecting belt links or empty cartridge cases
9/82 . . . . . . . Reloading \{or unloading\} of magazines
9/83 . . . . . . . Apparatus or tools for reloading magazines with unbelted ammunition, e.g. cartridge clips
9/84 . . . . . . . Clips
10/00 Assembly or disassembly features; Modular concepts; Articulated or collapsible guns
(F41A 3/64, F41A 19/10 - F41A 19/12, F41A 21/48, F41A 25/26 take precedence)
10/02 . Modular concepts, e.g. weapon-family concepts
10/04 . 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)
10/06 . Telescopic guns
13/00 Cooling or heating systems; Blowing-through of gun barrels; Ventilating systems
13/02 . Heating systems
13/04 . Injecting fluids into barrels or cartridge chambers (F41A 13/08 take precedence)
13/06 . Evacuating combustion gas from barrels (F41A 13/10 takes precedence)
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
13/10 . Blowers or turbines for evacuating or cooling guns, e.g. driven by combustion gas pressure or recoil
13/12 . Systems for cooling the outer surface of the barrel (F41A 13/10, F41A 21/24 take precedence)
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)
15/02 . for revolver-type guns, e.g. revolvers
15/04 . specially adapted for cartridge cases being deformed when fired, e.g. of plastics
15/06 . for breakdown guns
15/08 . for block-action guns
15/10 . of sliding-block type
15/12 . for bolt-action guns
15/14 . the ejector being mounted on or within the bolt; (Extractors per se)
15/16 . the ejector being mounted on the breech housing or frame
15/18 . for guns with forwardly slidable barrels
15/20 . specially adapted for caseless-ammunition duds
15/22 . Tools for extracting cartridges
17/00 Safety arrangements, e.g. safeties
17/02 . Key-operated safeties ([F41A 17/44 takes precedence])
17/04 . Safeties of the combination-lock type (F41A 17/02 takes precedence)
17/06 . Electric or electromechanical safeties (F41A 17/04, F41A 17/08 take precedence)
17/062 . [comprising a transponder]
17/066 . [having means for recognizing biometric parameters, e.g. voice control, finger print or palm print control]
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)
17/10 . Firing mechanisms with elevation stop
17/12 . Firing mechanisms with anti-canting safety
17/14 . Double-loading prevention
17/16 . Cook-off prevention, i.e. prevention of spontaneous firing of a cartridge by chamber wall heat
17/18 . Hang-fire prevention
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)
17/22 . acting on the trigger
17/24 . acting on the firing pin
17/26 . acting on the hammer
17/28 . acting on the sear
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
17/32 . the other element being the breech-block or bolt
17/34 . Magazine safeties
17/36 . locking the gun [automatically] in a safety condition when the magazine is empty or removed ((F41A 17/44 takes precedence))
17/38 . [Magazine mountings, e.g. for] locking the magazine in the gun
17/40 . Last-round safeties (F41A 17/34 takes precedence)
17/42 . Safeties for locking the breech-block or bolt in a safety position (F41A 17/52, F41A 17/36, F41A 17/40 take precedence (; anti-rebound arrangements F41A 3/70))
17/44 . Safety plugs, e.g. for plugging-up cartridge chambers, [barrels, magazine spaces]
17/46 . Trigger safeties, i.e. means for preventing trigger movement ([F41A 17/02 - F41A 17/40 take precedence]
17/48 . Automatically operated trigger safeties, i.e. operated by breech opening or closing movement
17/50 . by breakdown action
17/52 . Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns
17/54 . Protecting-caps for trigger guards; Trigger locking pieces mounted on, or within, the trigger guard
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]
17/58 . automatically operated, i.e. operated by breech opening or closing movement
17/60 . by breakdown action
17/62 . Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns
17/64 . Firing-pin safeties, i.e. means for preventing movement of sidably-mounted strikers ([F41A 17/02 - F41A 17/40 take precedence]
17/66 . automatically operated, i.e. operated by breech opening or closing movement
17/68 . by breakdown action
17/70 . Thumb-operated sliding safeties mounted on the upside of the stock, e.g. for shotguns
19/00 Firing or trigger mechanisms; Cocking mechanisms

19/01 Counting means indicating the number of shots fired
19/02 Burst limiters (F41A 19/01 - F41A 19/05, F41A 19/05 - F41A 19/59 take precedence)
19/03 Shot-velocity control (F41A 19/01 - F41A 19/05, F41A 19/05 - F41A 19/59 take precedence)
19/04 by controlling the time of release of the firing pin or hammer
19/05 Synchronising for firing through the propeller of an aircraft
19/06 Mechanical firing mechanisms, e.g. counterrecoil firing, recoil actuated firing mechanisms (F41A 19/01 - F41A 19/05, F41A 19/59 take precedence)
19/07 press-button actuated, e.g. with thumb rest
19/08 remote actuated; lanyard actuated
19/09 Auxiliary trigger devices (F41A 19/08 takes precedence)
19/10 Triggers; Trigger mountings
19/11 Trigger guards; Trigger-guard mountings (F41A 19/15 takes precedence)
19/12 Sear arrangements therefor (F41A 19/33 takes precedence)
19/13 Hammers, i.e. pivoting-actuated striker elements; Mountings therefor (F41A 19/26 takes precedence)
19/14 Percussion or firing pins, i.e. fixed or slidably-mounted striker elements; Mountings therefor (F41A 19/26 takes precedence)
19/15 Modular firing mechanism units
19/16 Adjustable firing mechanisms; Trigger mechanisms with adjustable trigger pull (F41A 19/17 takes precedence)
19/17 Hair-trigger mechanisms
19/18 for multibarrel guns [or multiple guns] (F41A 19/68 takes precedence)
19/183 for multiple guns, i.e. a plurality of guns being actuated by a single firing mechanism
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)
19/19 with single-trigger firing possibility
19/20 Double-trigger arrangements having the possibility of single-trigger actuation
19/21 having only one trigger
19/22 and only one striker element
19/23 rotatable about an axis parallel to the barrel axis for firing subsequent barrels

19/24 Release-trigger mechanisms, i.e. the striker element being released during the return movement of the trigger subseqent to trigger pull
19/25 having only slidably-mounted striker elements, i.e. percussion or firing pins
19/26 the percussion or firing pin and the breech-block or bolt forming one piece (F41A 19/34 takes precedence)
19/27 the percussion or firing pin being movable relative to the breech-block
19/28 propelled by a cam or lever when the breech-block or bolt arrives in a closing position
19/29 propelled by a spring under tension
19/30 in bolt-action guns
19/31 Sear arrangements therefor (F41A 19/33 takes precedence)
19/32 for catching the percussion or firing pin after each shot, i.e. in single-shot or semi-automatic firing mode
19/33 Arrangements for the selection of automatic or semi-automatic fire
19/34 Cocking mechanisms
19/35 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
19/36 in block-action guns
19/37 Cocking mechanisms
19/38 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
19/39 Cocking [or firing] mechanisms for other types of guns, e.g. fixed breech-block types, forwardly-slidable barrel types
19/40 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
19/41 for breakdown guns
19/42 having at least one hammer
19/43 in bolt-action guns
19/44 Sear arrangements therefor (F41A 19/33 takes precedence)
19/45 for catching the hammer after each shot, i.e. in single-shot or semi-automatic firing mode
19/46 Arrangements for the selection of automatic or semi-automatic fire
19/47 Cocking mechanisms
19/48 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
19/49 in block-action guns
19/50 Cocking mechanisms
19/51 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
19/52 Cocking [or firing] mechanisms for other types of guns, e.g. fixed breech-block types, revolvers
19/53 Double-action mechanisms, i.e. the cocking being effected during the first part of the trigger pull movement
19/54 for breakdown guns
19/55 Fluid-operated firing mechanisms
19/56 . . . Ignition of the propellant charge by contact with air heated by adiabatic compression
19/57 . . . Firing mechanisms operating with primer cartridge
19/58 . . . Electric firing mechanisms (F41A 17/10, F41A 17/12 take precedence)
19/59 . . . Electromechanical firing mechanisms, i.e. the mechanical striker element being propelled or released by electric means
19/60 . . . characterised by the means for generating electric energy
19/61 . . . Inductive generators ([F41A 19/63 takes precedence])
19/62 . . . Piezo-electric generators
19/63 . . . having means for contactless transmission of electric energy, e.g. by induction, by sparking gap
19/64 . . . for automatic or burst-firing mode
19/65 . . . for giving ripple fire, i.e. using electric sequencer switches for timed multiple-charge launching, e.g. for rocket launchers
19/66 . . . Electronic shot-velocity control (F41A 19/65 takes precedence)
19/67 . . . Burst limiters
19/68 . . . for multibarrel guns (or multibarrel rocket launchers or multicanisters) (F41A 19/65 takes precedence)
19/69 . . . Electric contacts or switches peculiar thereto (F41A 19/65 takes precedence)
19/70 . . . Electric firing pins; Mountings therefor
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)
21/02 . . . Composite barrels, i.e. barrels having multiple layers, e.g. of different materials
21/04 . . . Barrel liners
21/06 . . . Plural barrels
21/08 . . . Barrel junctions
21/10 . . . Insert barrels, i.e. barrels for firing reduced calibre ammunition and being mounted within the normal barrels
21/12 . . . Cartridge chambers; Chamber liners (F41A 3/74, F41A 9/46, F41A 21/04 take precedence)
21/14 . . . Arrangement of cartridge chambers lateral to the barrel axis
21/16 . . . Barrels or gun tubes characterised by the shape of the bore
21/18 . . . Grooves-Rifling
21/20 . . . Barrels or gun tubes characterised by the material (F41A 21/02 takes precedence)
21/22 . . . Barrels which have undergone surface treatment, e.g. phosphating ([F41A 21/44 takes precedence])
21/24 . . . Barrels or gun tubes with fins or ribs, e.g. for cooling (F41G 1/42 takes precedence)
21/26 . . . specially adapted for recoil reinforcement, e.g. for training purposes
21/28 . . . Gas-expansion chambers; Barrels provided with gas-relieving ports (F41A 1/06, F41A 13/08 (and F41A 21/36) take precedence)
21/30 . . . Silencers
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])
21/325 . . . Mountings for muzzle attachments
21/34 . . . Flash dampers
21/36 . . . for recoil reduction (recoil reduction arrangements in general F41A 25/00) ([Stabilisers; Compensators, e.g. for muzzle climb prevention]
21/38 . . . adjustable [i.e. the vent holes or the vent area being adjustable]
21/40 . . . Chokes for shotguns ([i.e. automatic chokes]
21/42 . . . [manually] adjustable
21/44 . . . Insulation jackets; Protective jackets
21/46 . . . Barrels having means for separating sabots from projectiles
21/48 . . . Barrel mounting means, e.g. releasable mountings for replaceable barrels
21/481 . . . [using partial or interrupted threads, e.g. bayonet-type mountings]
21/482 . . . [using continuous threads on the barrel]
21/484 . . . [using interlocking means, e.g. by sliding pins]
21/485 . . . [using screws or bolts]
21/487 . . . [using friction, e.g. by clamping a barrel surface]
21/488 . . . [Mountings specially adapted for pistols or revolvers]
23/00 Gun mountings, e.g. on vehicles; Disposition of guns on vehicles (F41A 25/00, F41A 27/00 take precedence)
23/005 . . . (Locks for connecting guns to their mountings (F41A 23/50 takes precedence))
23/02 . . . Mountings without wheels
23/04 . . . Unipods
23/06 . . . adjustable
23/08 . . . Bipods
23/10 . . . adjustable
23/12 . . . Tripods [: Mountings having at least three legs]
23/14 . . . adjustable
23/16 . . . Testing mounts
23/18 . . . Rests for supporting smallarms in non-shooting position (racks for storage A47B 81/00; racks in vehicles [B60R 7/14])
23/20 . . . for disappearing guns
23/22 . . . on board of submarines
23/24 . . . Turret gun mountings (feeding, loading or guiding ammunition F41A 9/00; mechanical elevating or traversing systems for turret guns F41A 27/18)
23/26 . . . Mountings for transport only; Loading or unloading arrangements for guns for use with carrier vehicles (F41A 23/50 takes precedence)
23/28 . . . Wheeled-gun mountings; Endless-track gun mountings
23/30 . . . the wheels being liftable from the ground for firing
23/32 . . . with split trails (F41A 23/30, F41A 23/46 takes precedence)
23/34 . . . on wheeled or endless-track vehicles
23/36 . . . on trailers (F41A 23/42 takes precedence)
23/38 . . . on motorcycles
23/40 . . . on rail vehicles
23/42 . . . for rocket throwers
23/44 . . . on sledges
Trail spades

Travelling locks; Brakes for holding the gun platform in a fixed position during transport

Base plates for gun mountings

for mortars

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)

Hydraulic jacks

Screw-operated jacks

Gun mountings permitting recoil or return to battery, e.g. gun cradles; Barrel buffers or brakes (recoilless guns F41A 1/08)

Fluid-operated systems

adjustable, e.g. in relation to the elevation of the gun

Friction-operated systems

adjustable

Spring-operated systems

using coil springs

adjustable

Hybrid systems

Hydroelastic systems

Hydropneumatic systems

Bearing arrangements for the reciprocating gun-mount or barrel movement

using ball or roller bearings

Assembling or dismounting recoil elements or systems

Gun mountings permitting traversing or elevating movement, e.g. gun carriages

Control systems for preventing interference between the moving gun and the adjacent structure

Scatter-fire arrangements, i.e. means for oscillating guns automatically during firing

Mechanical systems (F41A 27/02, F41A 27/04, F41A 27/30 take precedence)

Bearings, e.g. trunnions; Brakes or blocking arrangements

Bearings for supporting a pivoting gun in a wall, e.g. a turret wall

Brakes or locks for blocking traversing or elevating gear in a fixed position

Central-pivot bearings

using raceway bearings, e.g. for supporting the turret

for gun turrets (F41A 27/08 takes precedence)

Drives for turret movements

Traversing gear (F41A 27/18 takes precedence)

Elevating gear (F41A 27/18 takes precedence)

Fluid-operated systems (F41A 27/02, F41A 27/04, F41A 27/30 take precedence)

Electrically-operated systems (F41A 27/02, F41A 27/04, F41A 27/30 take precedence)

Stabilisation or compensation systems, e.g. compensating for barrel weight or wind force (on the barrel)

Cleaning or lubricating arrangements (injecting fluids into barrels or cartridge chambers F41A 13/04; ammunition for cleaning purposes F42B 5/24)

Scrapers or cleaning rods

Lubricating, oiling or greasing means, e.g. operating during use

Testing arrangements (testing mounts F41A 23/16)

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))

Light- or radiation-emitting guns; Light- or radiation-sensitive guns; Cartridges carrying light emitting sources, e.g. laser

Acoustical simulation of gun fire, e.g. by pyrotechnic means

Recoil simulators

Accessories or details not otherwise provided for

Dust- or weather-protection caps or covers (protecting-caps for trigger guards F41A 17/54)

Muzzle covers

Adaptation of guns to both right and left hand use

Subject matter not provided for in other groups of this subclass