CLASS 89, ORDNANCE

SECTION I - CLASS DEFINITION

This class includes all guns adapted to be mounted or supported otherwise than by hand, all explosion-operated guns including hand and shoulder firearms, bomb dropping devices, and those gun combinations and subcombinations which are not provided for in other classes including mounts, supports, carriages, loading and hoisting mechanisms, shields.

SECTION II - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

42, Firearms, appropriate subclasses for all hand and shoulder firearms, except explosion-operated.

60, Power Plants, subclasses 632 through 638 for one shot explosion-actuated expansible chamber-type motors.

86, Ammunition and Explosive-Charge Making, for pertinent subclass(es) as determined by schedule review.

102, Ammunition and Explosives, appropriate subclasses for gun projectiles, per se.

124, Mechanical Guns and Projectors, appropriate subclasses for devices for throwing or projecting missiles by mechanical means. This includes pneumatic and centrifugal projecting devices.

175, Boring or Penetrating the Earth, subclasses 2 through 4.6 for a process or means for penetrating the earth by means of a below-ground explosion and including a device for firing a bullet or shaped charge to penetrate the earth formation or perforate a casing or other wall member in the bore.

181, Acoustics, subclass 223 for gun silencers, per se.

434, Education and Demonstration, subclasses 11 through 27 for apparatus and processes for teaching and demonstrating the art of war, including gunnery.

505, Superconductor Technology: Apparatus, Material, Process, subclasses 150 through 239 for high temperature (T_c greater than 30 K) superconducting systems or devices, particularly subclass 164 for projectile or launching device or system.

SUBCLASSES

1.1 MISCELLANEOUS:

This subclass is indented under the class definition. Subject matter not otherwise classifiable.

SEE OR SEARCH CLASS:

42, Firearms, appropriate subclasses for all hand shoulder firearms, except explosion-operated.

73, Measuring and Testing, subclass 167 for ordnance and projectile measuring and testing.

102, Ammunition and Explosives, appropriate subclasses for gun projectiles, per se.

124, Mechanical Guns and Projectors, appropriate subclasses for devices for throwing or projecting missiles by mechanical means. This includes pneumatic and centrifugal projecting devices.

235, Registers, subclasses 400 through 418 for ordnance and weapon system calculators.

346, Recorders, subclass 38 for ordnance responsive recorders.

D12, Transportation, subclass 12 for the design of tanks and armored cars.

D22, Arms, Pyrotechnics, Hunting and Fishing Equipment, subclasses 100, for projectile launching weapon; 103, for rifle or shotgun; 104, for pistol.

1.11 WAGING WAR:

This subclass is indented under the class definition. Subject matter relating to conducting wars between nations and states, to tactics employed by a military, police, or like unit, or individual to the detriment of an adversary.

SEE OR SEARCH CLASS:

239, Fluid Sprinkling, Spraying, and Diffusing, appropriate subclasses for water cannon.

431, Combustion, subclass 91 for a flame thrower.

1.12 GUN HEATERS:

This subclass is indented under the class definition. Subject matter for heating the mechanisms of guns.

1.13 MINE-DESTROYING DEVICES:
This subclass is indented under the class definition. Subject matter for clearing mine fields.

SEE OR SEARCH CLASS:
102, Ammunition and Explosives, subclass 403 for the use of explosives to clear mine field.

1.14 EXPLOSIVE-OPERATED APPARATUS (E.G., EXPLOSIVE DOOR HINGE, TOOL EXPLOSIVELY ACTUATED, BAND RELEASE, EXPANSION OF TUBE, CABLE CUTTER, EXPLOSIVELY OPERATED SPLITTING WEDGES):
This subclass is indented under the class definition. Subject matter operated by means of an explosive agent.

(1) Note. The subject matter of this subclass is a subcombination for a combination classified elsewhere.

SEE OR SEARCH CLASS:
114, Ships, subclass 221 for explosive-operated underwater cable cutters.
137, Fluid Handling, subclass 68.13 for explosive frangible valves.
227, Elongated-Member-Driving Apparatus, subclasses 9 through 11 for stud guns.
244, Aeronautics and Astronautics, subclass 121 for explosive means permitting rapid egress from an aircraft.
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 84 for applying an explosive force to make an article.

1.15 WELL PERFORATORS:
This subclass is indented under the class definition. Subject matter used to make a hole in a well pipe and/or the surrounding bore.

SEE OR SEARCH CLASS:
166, Wells, subclasses 55 through 55.8, 63, and 297 for perforating well pipes.
175, Boring or Penetrating the Earth, subclasses 2 through 4.6 for a process or means for penetrating the earth by means of a below ground explosion and including a device for firing a bullet or shaped charge to penetrate the earth formation or perforate a casing or other wall member in the bore.

1.151 Method of making:
This subclass is indented under subclass 1.15. Subject matter includes a step of fabricating an explosion-operated device used to make a hole in a well pipe and/or the surrounding bore.

1.16 ENGINE STARTERS:
This subclass is indented under the class definition. Subject matter generating the motive power to begin the operation of an engine.

SEE OR SEARCH CLASS:
60, Power Plants, subclasses 786 through 790 where combustion products are used as motive fluid combined with a starting feature.
123, Internal-Combustion Engines, subclass 183.1 for gunpowder engine starters.

1.2 SMOKE OR RESIDUE EJECTOR:
This subclass is indented under the class definition. Subject matter for removing the products of combustion resulting from the firing of a piece of ordnance.

1.25 LUBRICANT INJECTOR:
This subclass is indented under the class definition. Subject matter for applying lubricant to cartridges while being fed into a gun or for applying lubricant to the gun.

SEE OR SEARCH CLASS:
184, Lubrication, appropriate subclasses for general utility lubricators not classified elsewhere.

1.3 MUZZLE LOADING:
This subclass is indented under the class definition. Subject matter which can be loaded only from the forward end of the gun barrel from which the fired bullet emerges.

(1) Note. Mortars and ordnance wherein the projectile surrounds the barrel are common here.

SEE OR SEARCH THIS CLASS, SUBCLASS:
45, for loading other than by the muzzle.

1.34 LINE THROWING:
This subclass is indented under the class definition. Subject matter for projecting cord, rope, wire, string, steel tape, cable etc.

1.35 TRENCH MORTARS:
This subclass is indented under the class definition. Subject matter comprising high angle of fire ordnance (greater than 45°) having a relatively short barrel that fires a relatively small shell (85 mm or less).

1.4 CHARGING MECHANISMS FOR GUNS:
This subclass is indented under the class definition. Subject matter for opening the breech block of an automatic gun to introduce the first round into the chamber and mechanisms opening the breech block of an automatic gun to extract and eject a misfire.

1.41 MULTIPLE BARREL GUNS:
This subclass is indented under the class definition. Subject matter having a plurality of tubes through which projectiles are expelled.

1.42 GUN HANDLES:
This subclass is indented under the class definition. Subject matter comprising that part of a piece of ordnance which is to be held, turned, lifted, pulled, etc., with the hand.

1.51 BOMB, FLARE AND SIGNAL DROPPING:
This subclass is indented under the class definition. Subject matter for holding and releasing bombs, flares and signals from aircraft.

SEE OR SEARCH CLASS:

60, Power Plants, subclasses 632 through 638 for one shot explosion-actuated expansible chamber-type motors.

74, Machine Element or Mechanism, subclass 2 for miscellaneous trip device.

102, Ammunition and Explosives, subclasses 382 through 397 for drop bombs, per se, and subclasses 337-340 for parachute flares.

221, Article Dispensing, appropriate subclasses for article dispensers not otherwise provided for.

235, Registers, subclasses 401 and 402 for calculators which determine the point at which bombs should be dropped.

244, Aeronautics and Astronautics, subclass 137.3 for aerial cargo unloading by parachute extraction.

340, Communications: Electrical, subclasses 12.5 through 12.51 13.25, and 13.26 for devices and apparatus designed to be controlled by radio energy transmitted from a distance.

398, Optical Communications, subclasses 106 through 114 for devices and apparatus designed to be controlled by radiant energy (i.e., light) transmitted from a distance.

1.52 Drop grenade:
This subclass is indented under subclass 1.51. Subject matter which are released manually out of an aircraft.

(1) Note. The grenades are designed to be dropped by hand from the aircraft.

1.53 Sway braces:
This subclass is indented under subclass 1.51. Subject matter where the ordnance to be dropped is supported from pylons on the wings of an aircraft and there are supports to prevent vibration of the bomb, flare or signal.

1.54 Bomb displaced from exterior of plane:
This subclass is indented under subclass 1.51. Subject matter where the ordnance is carried on the outside of an aircraft until it is released.

1.55 Arming devices:
This subclass is indented under subclass 1.51. Subject matter where the ordnance is not operable to explode until activated so that it will explode at a desired time.

1.56 Electrical and radio releases and sighting:
This subclass is indented under subclass 1.51. Subject matter where the ordnance is aimed and is dropped by means of an electrical device, or by means using an electromagnetic radio wave.

1.57 Explosive releases:
This subclass is indented under subclass 1.51. Subject matter where the ordnance to be dropped is separated from the aircraft by means of an explosion.

1.58 Shackles:
This subclass is indented under subclass 1.51. Subject matter where the ordnance to be dropped is held in a rack in the interior of the aircraft by means of a cable, chain, or wire.

1.59 Racks:
This subclass is indented under subclass 1.51. Subject matter comprising a magazine for holding ordnance to be dropped within the interior of the aircraft.

1.6 Timing devices:
This subclass is indented under subclass 1.51. Subject matter where the ordnance to be dropped contains a clock so that it will detonate at a desired moment.

1.61 Sighting:
This subclass is indented under subclass 1.51. Subject matter having a nonelectric means to aim the ordnance.

SEE OR SEARCH THIS CLASS, SUBCLASS:
1.56, for electrical means to aim the ordnance.

1.7 RECOILLESS GUN:
This subclass is indented under the class definition. A gun comprising means to project a projectile and employing an explodable propellant which produces a pressurized gas upon detonation thereof and having (1) a barrel means through which the projectile may be propelled to be ejected through an opening therein by the force of the gas, and (2) means to substantially neutralize, with respect to the gun, those propellant gas reaction forces which are developed and which act counter to the gas forces which act in a direction to propel the projectile.

1.701 Having a reaction mass:
This subclass is indented under subclass 1.7. A gun comprising an expansible chamber associated with the barrel means and having at least one movable wall formed by a freely movable reaction mass means which may be accelerated by those forces in the pressurized gas which are developed counter to those forces therein which propel the projectile.

(1) Note. The expansible chamber may be a second barrel means arranged to cooperate with the gun-barrel means, and the reaction mass may be in the form of a second projectile means adapted to be projected from the gun by the forces in the pressurized gas which act counter to those which act to propel the first projectile.

1.702 Barrel parts separable for loading:
This subclass is indented under subclass 1.701. A gun in which the barrel means comprises barrel portions which are secured in end-to-end relationship and which are at least partially separated to facilitate the loading of the projectile, the propellant, or the reaction mass.

1.703 Having pressure-control means:
This subclass is indented under subclass 1.7. A gun in which the means to neutralize the pressurized gas reaction forces comprises adjustable means to vent the said gas to the ambient, whereby to selectively control the gas reaction force.

1.704 Having breech closure:
This subclass is indented under subclass 1.7. A gun having a closure means with which to close, either in whole or in part, an opening in the breech of the gun through which an explosive charge is inserted.

SEE OR SEARCH THIS CLASS, SUBCLASS:
17, for breech closures having locking means which hold the closure in the breech of the gun.

1.705 Closure has firing device:
This subclass is indented under subclass 1.704. A gun in which the closure means is provided with a means to detonate the explosive means.

1.706 Cartridge-case closure:
This subclass is indented under subclass 1.704. A gun in which the closure means for said opening comprises a cartridge.

1.8 ROCKET LAUNCHING:
This subclass is indented under the class definition. Subject matter relating to the launching of a rocket.

(1) Note. For the purpose of this definition a rocket is defined as a vehicle, which may or may not be specifically described, having therein a reaction motor and a propellant, whereby, independent of atmospheric oxygen, propulsion gas may be produced by a chemical reaction. However, in the case where the rocket, before being launched is located entirely or partially under water, and during launching, or soon thereafter, a part or all of the rocket contacts the water, the rocket propulsion gas, or any other pressurized fluid employed to launch the rocket, may be produced by a chemical reaction or by a nonchemical-reaction means.

(2) Note. The word launch means to cause to be moved for disengagement from a supporting environment either (a) by the thrust created by the reaction motor of the rocket being launched alone or (b) by an additional propelling force and the thrust of the reaction motor of the rocket.

(3) Note. Subject matter under this definition includes transport, storage, connector, latch, ejecting, exhaust gas deflecting structures or the like for a rocket which are in combination with either the rocket or launcher for a launching purpose and which are not classified elsewhere.

(4) Note. To be classified under this definition in the case of a rocket not launched under water, as defined in (1) Note, at least a portion of the propulsion gases emitted by the rocket whether generated outside the rocket or in the rocket are required to be produced by a chemical reaction.

(5) Note. For original classification of a patent under this definition, rather than in other appropriate subclasses of Class 89, the sole disclosed use or a claim thereof must be for launching a rocket.

SEE OR SEARCH THIS CLASS, SUBCLASS:

33.01 through 35.02, for devices which hold or feed a plurality of cartridges to a gun.

37.01 through 44.02, for gun mounts in general.

45 through 47, for means for placing a load into firing position in a gun.

125, for automatic gun structures which could be utilized in the launching of rockets.

SEE OR SEARCH CLASS:

102, Ammunition and Explosives, subclasses 347 through 352 for rocket support sticks and other supports for pyrotechnic rockets wherein the supports are integral with the rocket and are launched therewith.

104, Railways, subclasses 48 through 50 for rail transfer structure and subclasses 89-95 for suspended rail structures, per se.

114, Ships, subclasses 18 through 19 and 316-320 for vessels having means for launching a torpedo.

124, Mechanical Guns and Projectors, appropriate subclasses for apparatus employing nonexplosive means to impel or launch a projectile wherein the projectile is disclosed as having a chemical reaction motor which is claimed in name only. Patents are also classified in Class 124 which claim significant projectile structure having a propelling agent which is either produced by a nonchemical reaction or is a stored pressurized fluid. However, the combination of a projectile (regardless of its propulsion means) with a launching platform submerged in a liquid is classified in Class 89, subclasses1.8-1.82.

198, Conveyors: Power-Driven, appropriate subclasses for power driven conveyor devices, per se.

200, Electricity: Circuit Makers and Breakers, appropriate subclasses for electrical switch devices which interrupt the flow of electricity but which normally remain connected in the electrical circuit.

206, Special Receptacle or Package, subclass 317 for a container for a weapon.

244, Aeronautics and Astronautics, subclasses 2 through 3 , for means to launch and lift an aircraft, and subclass 63 for devices and arrangements adapted to assist in the take off of aircraft from land or water. Launching devices disclosed as rocket launchers wherein the rocket is claimed in name only are classified in Class 244. Also, launchable devices comprising propeller blades and flight control surfaces disclosed as a stage of a rocket-launching means are classified in Class 244.

361, Electricity: Electrical Systems and Devices, subclasses 248 through 252 for electrical arc or spark means for igniting a fuel by which a rocket may be propelled.

414, Material or Article Handling, appropriate subclasses for rocket handling structures which do not provide means for the launching of the rocket.

439, Electrical Connectors, appropriate subclasses for details of electrical connections which permit making and breaking of an electrical circuit by physical separation of conductors.

446, Amusement Devices: Toys, subclass 212 for reaction propulsion toy launchers having nonchemical reaction propulsion devices.

1.801 Having rocket-storage and transfer means:
This subclass is indented under subclass 1.8. Subject matter having a rocket-storage means for storing or holding a rocket in a position where it is not connected to a launching means from which it is to be launched, and a means for engaging and transferring said rocket from said storage means to a point so that it may be launched from the rocket-launching means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.815, for rocket launchers which support a rocket in a nonfiring or storage position and then move the rocket to a firing position.

1.802 Launcher movable relative to storage means:
This subclass is indented under subclass 1.801. Subject matter wherein the launching means is supported so that it may be moved relative to the rocket-storage means.

1.803 Having magazine-gate means to feed and support rocket for launching:
This subclass is indented under subclass 1.801. Subject matter wherein the storage means is provided with an opening and a means cooperating with said opening which both constitutes a gate or closure for said opening and a means to transfer a rocket from the storage means to a position from which it may be launched.

1.804 Storage means movable to facilitate launching:
This subclass is indented under subclass 1.801. Subject matter in which the storage means is movable from a first position to a second position for facilitating transfer of the rocket from the storage means to the launcher.

1.805 Having means to transfer rocket to launcher:
This subclass is indented under subclass 1.8. Apparatus having means for transferring a rocket to be launched from a position removed from the launcher to a position on the launcher.

1.806 Having means restraining rocket from movement in launching direction:
This subclass is indented under subclass 1.8. Apparatus comprising a rocket-launching means for restraining the rocket from movement thereon at least in a direction in which it is to be launched.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.812, for other means designed to prevent a rocket from being fixed or launched prematurely.

1.807 Including rocket-firing means:
This subclass is indented under subclass 1.806. Apparatus having means by which the rocket motor may be started.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.813+, for a rocket launcher having a rocket-firing means.

1.808 Rocket spin stabilized while restrained:

This subclass is indented under subclass 1.806. Apparatus having means to rotate a rocket on the launcher prior to release thereof so as to stabilize the rocket while in flight.

1.809 Underwater launching:

This subclass is indented under subclass 1.8. Subject matter wherein a rocket before being launched is located entirely or partially underwater, and during launching or soon thereafter, a part or all of the rocket contacts the water and wherein the rocket propulsion gas, or any other pressurized fluid employed to launch the rocket, may be produced by a chemical reaction or by a nonchemical-reaction means.

1.81 Rocket launched from container:

This subclass is indented under subclass 1.809. Subject matter having a container for enclosing a rocket to keep water from contacting it until contact is desired.

1.811 Having umbilical-separating means:

This subclass is indented under subclass 1.8. Apparatus having cable or conduit means connected to a rocket by connecting means with means actuated upon the launching of the rocket to permit or cause separation of said connecting means to disconnect said cable or conduit means from said rocket.

(1) Note. A mere snap or manually actuated means connecting a service conduit or cable to a rocket whether in launching position or not is not included in this subclass but is classified, per se, in Class 200, Electricity: Circuit Makers and Breakers, appropriate subclasses, or Class 439, Electrical Connectors, appropriate subclasses. This subclass includes only those cable or conduit connecting means which are separated or conditioned for separation as a result of launching a rocket.

1.812 Having safety devices for preventing premature ignition or launching:

This subclass is indented under subclass 1.8. Apparatus having means which prevents premature starting of a rocket motor or launching of the rocket vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.806, for means which physically engages a rocket for preventing movement thereof from a position on a launcher from which it is launched.

1.813 Having rocket-firing means:

This subclass is indented under subclass 1.8. Apparatus having means by which a rocket motor may be started.

1.814 Rocket propellant ignited by electrical means:

This subclass is indented under subclass 1.813. Apparatus wherein the rocket motor propellant is ignited by electrical means.

1.815 Movable launcher:

This subclass is indented under subclass 1.8. Apparatus having rocket launchers which support and hold a rocket in a nonfiring or storage position and then move the rocket to a firing position.

(1) Note. Excluded from this subclass are those launchers rigidly mounted on a vehicle (e.g., jeep, aircraft, etc.) wherein movement of the launcher is due only to the movement of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.802, for a movable rocket launcher having means storing a rocket in a position disconnected from said launcher and means to transfer the rocket to the launcher.

1.816 Having tubular guide means:

This subclass is indented under subclass 1.8. Apparatus wherein the rocket launcher is provided with guide means in the form of a tube or barrel means to guide a rocket being launched.

1.817 Including a forward closure:
This subclass is indented under subclass 1.816. Apparatus comprising means to close the end of the guide means through which a rocket may pass when it is launched.

1.818 Including an auxiliary rocket-launching charge:
This subclass is indented under subclass 1.816. Apparatus including a propulsion charge in the guide means for producing propulsion gases to aid in the launching of a rocket from the guide means.

1.819 Having guide means:
This subclass is indented under subclass 1.8. Apparatus wherein the rocket launcher is provided with means to guide a rocket being launched.

1.82 Method of making:
This subclass is indented under subclass 1.8. Subject matter includes fabricating a mount used to hold a projectile having a propulsion system.

4.05 EXPLOSION OPENED BREECH:
This subclass is indented under the class definition. Subject matter which utilize the force of an explosion to open the breech of a gun and eject a cartridge shell if present.

(1) Note. A new charge inserted by hand or by nonexplosion-operated means usually releases the breech-block which may then be closed.

(2) Note. If a new cartridge or charge is positioned by means operated by the explosion so that a new cycle of operation can be initiated merely by causing or permitting the charge to be fired, the gun is considered to be “automatic” and will be classified in subclasses 125-199. For further definition of “automatic” and “explosion-operated means”, see the definition and notes of subclass 125.

SEE OR SEARCH THIS CLASS, SUBCLASS:
9 through 13.1, for nonautomatic machine guns.
17 through 26, for breech closures.
27.11 through 28.2, for firing devices.
37.01 through 44.02, for gun mounts.
45 through 47, for loading and ramming devices handling single charges or cartridges.
125 through 199, for automatic guns and see (2) Note above.

SEE OR SEARCH CLASS:
42, Firearms, appropriate subclasses for firearms having no explosion-operated features.
60, Power Plants, subclasses 632 through 638 , for one shot explosion-actuated expansible chamber-type motors.

4.1 Rotary breech block:
This subclass is indented under subclass 4.05. Subject matter where the force of the explosion opens a closure which rotates about the axis of the gun barrel to close or open the breech.

4.2 Transverse sliding breech block:
This subclass is indented under subclass 4.05. Subject matter where the explosion opens a closure which moves along an axis at an angle with respect to the gun barrel.

4.5 Blow back breech block:
This subclass is indented under subclass 4.05. Guns having blow back (unlocked) breech blocks.

SEE OR SEARCH THIS CLASS, SUBCLASS:
194, for automatic guns of blow back type.

5 SUBMARINE:
This subclass is indented under the class definition. Guns adapted to be employed under water, usually for discharging torpedoes.

6 FUSE SETTERS:
This subclass is indented under the class definition. Apparatus for operating upon encased fuses of explosive devices for adjusting them to determine operating time, corresponding processes and combinations having such subject matter as a part thereof.

SEE OR SEARCH CLASS:
86, Ammunition and Explosive-Charge Making, subclass 22 for tools for cutting exposed fuse strings to proper length for use with blasting charges.
235, Registers, subclass 408 for calculators that determine the fuse setting to be used.

6.5 Combined with projecting, launching or releasing devices:
This subclass is indented under subclass 6. Fuse setters structurally combined with guns, launching guides, or bomb dropping devices.

(1) Note. Such combinations may involve merely means for mounting on the device in a place convenient for the operator to reach.

7 Explosive charge:
Guns in which the compression of the propelling-gas is secured by exploding a separate charge or in which the mixture is itself exploded.

8 ACCELERATING:
This subclass is indented under the class definition. Guns in which several charges are successively exploded to produced an accelerating effect upon the projectile.

9 MACHINE GUNS:
This subclass is indented under the class definition. Guns in which mechanical means are employed to load, fire, and reload the gun or in which a holder containing a series of charges is mechanically shifted or fed to bring the charges successively to firing position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
125, for automatic or self-loading guns.

11 Axially moving breech block:
This subclass is indented under subclass 9. Machine guns in which the movement of the breech-block in opening and closing the breech is in line with the axis or bore of the gun.

12 Revolving barrels:
This subclass is indented under subclass 9. Machine guns in which the barrels revolve during the loading operations.

(1) Note. The Gatling and Hotchkiss type are here included.

13.05 Revolving cylinders:
This subclass is indented under subclass 9. Subject matter in which, like the common revolver, the cylinder containing the charges revolves to bring a new load or set of loads to firing position.

13.1 Nonparallel bores:
This subclass is indented under subclass 13.05. Subject matter where the axes of the bores of the cylinders are not parallel to each other.

14.05 BARRELS:
This subclass is indented under the class definition. Subject matter including structure of the barrel or body of the gun or the shape or arrangement of the bore of firing chamber.

SEE OR SEARCH CLASS:
42, Firearms, subclasses 76.01 through 76.1 for firearm barrels.

14.1 With heat exchanger:
This subclass is indented under subclass 14.05. Devices having means to promote the transfer of heat between the barrel and any external media.

SEE OR SEARCH THIS CLASS, SUBCLASS:
1.12, for heat exchange devices for parts other than barrels.
1.2, for devices which flush the bore or remove residual gases therefrom.
14.2, for devices which reduce flash by cooling burning gases at the barrel muzzle, and for combinations of barrel heat exchangers with flash reducers.

SEE OR SEARCH CLASS:
165, Heat Exchange, subclasses 177 through 184 for a tubular structure of general application with attached heat-transfer means.

14.2 Flash shield:
This subclass is indented under subclass 14.05. Subject matter which reduce the sudden flame at the end of the barrel when a gun is fired.

14.3 Recoil absorbers and climb arrestors:
This subclass is indented under subclass 14.05. Subject matter where the rearward and/or upward motion of the barrel caused by firing the barrel is reduced.

14.4 Silencers:
This subclass is indented under subclass 14.05. Subject matter which tends to reduce the noise caused by the firing of a gun.

SEE OR SEARCH CLASS:
181, Acoustics, subclasses 233 through 234 for silencers, per se.

14.5 Recoil increasers:
This subclass is indented under subclass 14.05. Subject matter to amplify the effects of the rearward motion of the barrel caused by firing the gun.

(1) Note. These are almost always used with practice ammunition in recoil-operated guns.

14.6 Sabot strippers:
This subclass is indented under subclass 14.05. Subject matter having a device on the muzzle of the barrel to remove from a fired projectile a packing or wadding which covers or encloses a substantial portion of said projectile or supports it when engaged with the barrel.

SEE OR SEARCH CLASS:
102, Ammunition and Explosives, subclass 520 for sabots, per se.

14.7 Lining, rifling, or making:
This subclass is indented under subclass 14.05. Subject matter includes (a) adding another layer to the bore, or (b) altering by, e.g., boring, the shape of the bore etc., or (c) fabricating the bore of the firing chamber.

SEE OR SEARCH CLASS:
42, Firearms, subclass 78 for rifling or lining a firearm barrel and 76.1 for making or modifying by metal working a firearm barrel.

14.8 Method of making multibore barrel:
This subclass is indented under subclass 14.05. Subject matter includes fabricating having at least two projectile discharging tubes.

15 Wound:
This subclass is indented under subclass 14.05. Gun barrels strengthened by winding of wire, metal ribbon, rawhide, etc.

16 Composite:
This subclass is indented under subclass 14.05. Gun barrels built up or formed of more than one piece.

17 BREECH CLOSURES:
This subclass is indented under the class definition. The breech-block, its operating mechanism, or the means for securing the block to the breech.

SEE OR SEARCH THIS CLASS, SUBCLASS:
1.1, for manual breech-block operating means for automatic ordnance.
4.05 through 4.5, for guns with explosion opened breech.
9 through 13.1, for machine guns.
125 through 199, for automatic or self-loading guns.

SEE OR SEARCH CLASS:
42, Firearms, appropriate breech-block subclasses, particularly subclass 16, for manual breech-block operating means for automatic firearms.

18 Key locked:
This subclass is indented under subclass 17. Breech-closures in which a locking-key is used to hold the block in the breech.

(1) Note. The key may be radially thrown out, inserted behind the block, or otherwise employed.

19 Screw:
This subclass is indented under subclass 17. Breech-blocks adapted to be screwed into the breech.

20.2 Interrupted:
This subclass is indented under subclass 19. Subject matter having segmental threads mounted to be move in or out of grasping relationship.

SEE OR SEARCH CLASS:
- 109, Safes, Bank Protection, or a Related Device, subclass 72 for other interrupted threads on wall and panel closures.
- 285, Pipe Joints or Couplings, subclasses 34 through 35 for interrupted threads on pipe joints or couplings.
- 411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, subclasses 417 through 422 for screws and bolts provided with circumferentially interrupted threads.

20.4 Motor operated:
This subclass is indented under subclass 20.2. Subject matter wherein the breach closure is turned by means of a motor.

21 Fixed ammunition:
This subclass is indented under subclass 20.2. Closures of the divided-screw-thread type adapted to fire charges enclosed in a rigid case.

22 Transverse:
This subclass is indented under subclass 17. Breech-closures in which the block opening or closing the breech moves transversely to the axis of the bore.

23 Sliding and swinging:
This subclass is indented under subclass 22. Breech-closures in which the breech-block has both a transverse sliding and then a swinging movement.

24 Sliding:
This subclass is indented under subclass 22. Breech-closures in which the breech-block slides laterally to open the breech.

25 Swinging:
This subclass is indented under subclass 22. Breech-closures in which a block is pivoted and has no movement except to swing transversely to the axis of the bore to open or close the breech.

26 Gas checks:
This subclass is indented under subclass 17. Breech-closures in which the novelty resides in the means for checking the gases from escaping at the breech in those guns which fire loose charges.

27.11 FIRING DEVICES:
This subclass is indented under the class definition. Subject matter having a lock or charge-exploding mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 9 through 13.1, for firing devices for machine guns.
- 132 through 154, for firing devices for automatic guns.

SEE OR SEARCH CLASS:
- 42, Firearms, particularly subclasses 41 through 43, 65-67 and 69.01-69.03 for firing devices for nonautomatic firearms.

27.12 Safety:
This subclass is indented under subclass 27.11. Subject matter provided with a selectively operable device for preventing firing.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 148, for like devices on automatic guns.

SEE OR SEARCH CLASS:
- 42, Firearms, subclasses 70.01 through 70.11 for like devices on firearms.

27.13 Primer fired:
This subclass is indented under subclass 27.11. Subject matter using a cap or cylinder containing a substance that is exploded in order to ignite an explosive charge.

27.14 Percussion firing:
This subclass is indented under subclass 27.11. Subject matter which is detonated by a sharp blow.

27.3 Gun firing actuators:
This subclass is indented under subclass 27.11. Subject matter for pulling the trigger of a gun which is operated from a location remote from the gun.

28.05 Electric:
This subclass is indented under subclass 27.11. Subject matter for firing guns or ordnance by means of electricity.

SEE OR SEARCH THIS CLASS, SUBCLASS:
135, for electrical firing devices for automatic guns.

SEE OR SEARCH CLASS:
42, Firearms, subclass 84, for electrical appliances, including firing devices, for nonautomatic firearms.
124, Mechanical Guns and Projectors, subclass 32, for electric releasing mechanism for mechanical projecting apparatus.

28.1 Electrical and mechanical:
This subclass is indented under subclass 28.05. Subject matter having an alternate mechanical means (normally percussive) to fire a propellant.

28.2 Training and firing:
This subclass is indented under subclass 28.05. Subject matter combined with electrically aiming or directing the gun.

29 PRACTICE BARRELS:
This subclass is indented under the class definition. Small barrels adapted to be inserted in the bore of larger guns in order to permit firing a small load for practice or any other purpose.

(1) Note. For devices inserted into real firearms to convert them into mere spring-operated target marking devices, see search notes below.

SEE OR SEARCH CLASS:
42, Firearms, subclass 77 for similar devices in firearms.
124, Mechanical Guns and Projectors, subclass 28, for devices inserted into real firearms to convert them into mere spring-operated target marking devices.

30 VENTS AND STOPPERS:
This subclass is indented under the class definition. Inventions relative to the vent or touch-hole or its stopper.

31 TOMPIONS AND VALVES:
This subclass is indented under the class definition. Devices for closing the gun-muzzle or other opening in the barrel.

SEE OR SEARCH CLASS:
138, Pipes and Tubular Conduits, subclasses 89 through 95 and the notes thereto, for closures or plugs for pipes and tubular conduits.
181, Acoustics, subclass 223 for gun silencers, per se.

33.01 CARTRIDGE FEEDING:
This subclass is indented under the class definition. Subject matter to hold and/or feed a plurality of cartridges to a gun.

(1) Note. The gun may be automatic, and the inclusion in the claims of conventional explosion-operated means, such as a recoiling barrel on a gas piston, will not prevent classification in this or indented subclasses where the improvement lies in the feeding device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
45 through 47, for devices for loading single cartridges, charges, or projectiles to guns.
125 through 199, for significant automatic gun structure in addition to cartridge feeding.

SEE OR SEARCH CLASS:
42, Firearms, appropriate "magazine" subclasses for cartridge feeding devices for firearms.
193, Conveyors, Chutes, Skids, Guides, and Ways, appropriate subclasses for the structure of cartridge chutes and guides not structurally associated with a gun.

221, Article Dispensing, appropriate subclasses for article dispensers not otherwise provided for.

33.02 Drum magazine:
This subclass is indented under subclass 33.01. Subject matter having a cylindrical magazine from which cartridges are fed in a spiral path to the gun.

33.03 Movable chamber:
This subclass is indented under subclass 33.01. Subject matter where the part of the gun which holds the ammunition when it is fired is displaced between a loading and a firing position.

33.04 Selective feed:
This subclass is indented under subclass 33.01. Subject matter wherein alternative type of ammunition are alternatively fed to a gun chamber from one or more magazines, or belts or other ammunition holders while on the gun.

33.05 With rammer separated breach block:
This subclass is indented under subclass 33.01. Subject matter where the round is pushed into the gun by something other than the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:
47, for rammer, per se.

33.1 With magazine:
This subclass is indented under subclass 33.01. Subject matter having a case or chamber on a gun from which cartridges are inserted into the gun.

33.14 Belt feed:
This subclass is indented under subclass 33.1. Subject matter wherein cartridges are supplied from a strip of material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33.2 through 33.25, for belt feed without magazine.

33.16 With rotary feeder:
This subclass is indented under subclass 33.14. Subject matter having a sprocket which places a cartridge in position to be chambered.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33.17, for magazine with rotary feeder without belt feed.
33.25, for rotary feeder with belt feed without a magazine.

33.17 With rotary feeder:
This subclass is indented under subclass 33.1. Subject matter having a sprocket which places a cartridge in position to be chambered.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33.16, for magazine with rotary feeder with belt feed.
33.25, for rotary feeder with belt feed without a magazine.

33.2 Belt feed:
This subclass is indented under subclass 33.01. Subject matter wherein cartridges are supplied from a strip of material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33.14 through 33.16, for a belt feed with a magazine.

33.25 With rotary feeder:
This subclass is indented under subclass 33.2. Subject matter having a sprocket which places a cartridge in position to be chambered.

SEE OR SEARCH THIS CLASS, SUBCLASS:
33.16, for a rotary feeder with a belt feed and a magazine.
33.17, for a rotary feeder with a magazine without a belt feed.

33.4 Empty shell receivers:
This subclass is indented under subclass 33.01. Subject matter to receive or catch spent cartridge cases ejected from the gun.

33.5 Cartridge feeding auxiliary feeder:
This subclass is indented under subclass 33.01. Subject matter where a plurality of cartridges are fed to one or more cartridge feeders before being ultimately being fed to a gun.

34 Holders:
This subclass is indented under subclass 33.01. Magazines, feed-cases, packages, etc., in which cartridges are regularly placed to be fed therefrom to the feeding-chute or other mechanism which directly supplies the gun.

35.01 Belts:
This subclass is indented under subclass 33.01. Devices having a series of loops, links, or grips for holding cartridges that are fed from it into an automatic gun.

SEE OR SEARCH CLASS:
221, Article Dispensing, subclasses 76 through 86 for article dispensers not otherwise provided for, in which the source is a conveyor-type cellular magazine, and see especially subclasses 84-85 for flexible belt-carried cell structures.
224, Package and Article Carriers, subclass 223 for plural receiver pockets formed by strips attached to a backing at spaced points.

35.02 Disintegrating type:
This subclass is indented under subclass 35.01. Devices wherein the cartridge-holding means or a portion of the holding means separate into parts or decompose.

36.01 SHIELDS:
This subclass is indented under the class definition. Devices adapted to render protection an ordnance device or to the ordnance operating personnel.

(1) Note. Included in this subclass are devices which also screen, cover, shroud, or cloak.

(2) Note. Enclosures and walls having gun ports which are not in combination with a gun or gun mount are not proper for this subclass.

SEE OR SEARCH CLASS:
2, Apparel, subclass 2.5 for guards and protectors which are penetration resistant.
105, Railway Rolling Stock, subclass 394 for armored railway cars.
109, Safes, Bank Protection, or a Related Device, subclass 9 for guard booths; subclass 49.5 for shields and protectors, and subclasses 58-87 for enclosures and walls.
114, Ships, subclasses 1 through 15 for warships having armor.
152, Resilient Tires and Wheels, subclasses 167 through 184 for armored resilient tires.
244, Aeronautics and Astronautics, subclass 121 for shields and other protective devices.
428, Stock Material or Miscellaneous Articles, Cross-Reference Art Collection 911 for penetrating resistant layer and Cross-Reference Art Collection 919 for camouflaged articles.

36.02 Shape or composition:
This subclass is indented under subclass 36.01. Devices wherein the configuration of the ordnance protector is specified or the material and structure is also specified.

36.03 Rotating shield:
This subclass is indented under subclass 36.01. Devices wherein the ordnance protector revolves about an axis.

36.04 For fixed structure:
This subclass is indented under subclass 36.01. Devices wherein the ordnance protector is installed on a stationary structure means, e.g., hanger, building, etc.

36.05 Body:
This subclass is indented under subclass 36.01. Devices wherein the ordnance protector is specifically adapted to fit the human body, e.g., jackets, helmets, shoes, etc.

SEE OR SEARCH CLASS:
2, Apparel, subclass 2.5 for guards and protectors which are penetration resistant.
109, Safes, Banks Protection, or a Related Device, subclass 49.5 for shields and protectors.

36.06 Small arms attached:
This subclass is indented under subclass 36.01. Devices wherein the ordnance protector is adapted to be installed on a weapon which may be carried by an individual operator.

(1) Note. A small arm is a firearm of small caliber or (mm), including pistols, rifles, machine guns and shot guns. The maximum caliber or (mm) may vary up top an, including 30 caliber.

36.07 Transportable:
This subclass is indented under subclass 36.01. Devices wherein the ordnance-protector means can be carried from one place to another to a desired location.

(1) Note. Included in this subclass are devices such as blinds, protectors on tripods, covers for machine guns, etc.

36.08 Self-propelled (e.g., tanks, etc.):
This subclass is indented under subclass 36.07. Devices wherein the ordnance protector is attached to or is part of an armored vehicle which moves under its own power.

(1) Note. This subclass is not intended to include running gear, drive trains, engine details, etc. It is intended to provide only structure to protect an ordnance piece in broad combination with a self-propelled vehicle.

SEE OR SEARCH CLASS:
180, Motor Vehicles, appropriate subclasses for a self-propelled vehicle of general utility, per se, especially subclasses 6.2 through 6.7 for vehicles steered by driving and subclasses 9.1-9.64 for vehicles including special driving devices of endless, flexible track.
280, Land Vehicles, appropriate subclasses for a land vehicle of general utility not elsewhere classifiable, especially subclasses 762 through 770 for an exterior attachment thereto; subclass 834 for a land vehicle having a fuel tank, container, receptacle or reservoir with or without any protective means; or subclasses 847-854 for dust and mud guards.
296, Land Vehicles: Bodies and Tops, subclasses 187.01 through 30 for vehicle body-structural means, including means for reinforcing and resisting deformation from impact.
305, Wheel Substitutes for Land Vehicles, subclasses 185 through 59 for track or tread ground engaging elements of a land vehicle.

36.09 Wheeled:
This subclass is indented under subclass 36.07. Devices wherein the ordnance protector is provided with wheels for mobility to a desired location.

36.11 For aircraft:
This subclass is indented under subclass 36.01. Devices wherein the ordnance protector is attached to some portion of the aircraft structure.

SEE OR SEARCH CLASS:
244, Aeronautics and Astronautics, subclass 121 for shields and other protective devices.

36.12 For ships:
This subclass is indented under subclass 36.01. Devices wherein the ordnance protector is attached to some portions of the ship structure.

SEE OR SEARCH CLASS:
114, Ships, subclasses 1 through 15 for warships having armor.

36.13 Turret type:
This subclass is indented under subclass 36.01. Devices wherein the ordnance protector is a dome-shaped or cylindrical structure having observation slits or gun ports and mounted on a fixed or mobile structure, e.g., tank, armored vehicle, building, aircraft, etc.

36.14 With vision slit or gun port closure:
This subclass is indented under subclass 36.13. Devices provided with movable means to cover or uncover the slit or port.

(1) Note. Also included in this subclass are bullet proof vision blocks and feriscopes.

SEE OR SEARCH CLASS:

359, Optical: Systems and Elements, subclasses 402 through 404 for a periscope, per se.

36.15 On elevatable platform:

This subclass is indented under subclass 36.01. Devices wherein the ordnance protector is mounted on a permanent structure or a movable device and can be raised or lowered to a different level.

36.16 Anti-aircraft type:

This subclass is indented under subclass 36.01. Devices comprising a barrage barrier or a plurality of barrage barriers, usually a balloon restrained from free flight by means of a cable, thereby denying access to the air space in the vicinity of the ordnance protector.

SEE OR SEARCH CLASS:

102, Ammunition and Explosives, appropriate subclasses for details of explosive devices, mechanism, etc.

109, Safes, Bank Protection, or a Related Device, subclass 20 for fluent material releasing, generating and/or for explosive devices and wall contained detonators.

36.17 With explosive device:

This subclass is indented under subclass 36.01. Devices wherein an explosive mechanism or element is combined with the ordnance protector.

37.01 MOUNTS:

This subclass is indented under the class definition. Devices comprising structure for supporting any ordnance-type apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.7 through 1.706, for rocket launching and nonrecoil gun mounts.

1.815, for movable launcher.

SEE OR SEARCH CLASS:

42, Firearms, subclass 94 for rests for supporting the for ward end of a manually held gun.

124, Mechanical Guns and Projectors, subclass 29 for simulated mounted ordnance which projects a missile by spring operated mechanical means.

37.02 Anti-aircraft:

This subclass is indented under subclass 37.01. Devices wherein the ordnance mount is especially designed to be shifted in direction and elevation, including overhead, for the purpose of defense against airborne aircraft.

37.03 Light machine gun type:

This subclass is indented under subclass 37.01. Devices wherein the supporting structure is specifically adapted to support an ordnance device that fires small arms ammunition automatically and is capable of sustained rapid fire.

37.04 Rifle and pistol mounts:

This subclass is indented under subclass 37.01. Devices comprising supporting structure for short automatic or semiautomatic firearms.

(1) Note. Included in this subclass are bipods and cradles for supporting the ordnance device.

SEE OR SEARCH CLASS:

42, Firearms, subclass 94 for rests for small side arms.

37.05 Mortars:

This subclass is indented under subclass 37.01. Devices wherein the supporting structure is adapted to provide a firm base for an ordnance device that has a high angle of fire, e.g., greater than 45°, etc.

37.06 Submarine:

This subclass is indented under subclass 37.01. Devices wherein the ordnance supporting structure is adapted to be submerged under water.

37.07 Trunion:

This subclass is indented under subclass 37.01. Devices wherein one or two pivots supports the ordnance device on its carriage and forms the horizontal axis about which the ordnance barrel rotates when elevated.

37.08 Counterbalances:
This subclass is indented under subclass 37.01. Devices wherein the supporting structure includes force producing mechanism designed to provide a movement about the trunions of a gun cradle which is equal and opposite to that caused by the unbalanced weight of the tipping parts, thus making it easier to elevate the gun.

37.09 Leveling:
This subclass is indented under subclass 37.01. Devices wherein the supporting structure includes mechanism for adjusting the device so that all horizontal or vertical angles will be measured in the true horizontal and vertical planes.

SEE OR SEARCH THIS CLASS, SUBCLASS:
41.18, for motor operated trunion tilt training mechanisms.
41.22, for training mechanisms which are gyroscope or pendulum initiated.

37.11 Locks:
This subclass is indented under subclass 37.01. Devices wherein the supporting structure includes means by which the motion of the ordnance tube supporting structure is retarded, arrested, or dampened.

SEE OR SEARCH CLASS:
188, Brakes, appropriate subclasses for brakes, per se.

37.12 Spherical or oval gun support:
This subclass is indented under subclass 37.01. Devices wherein the supporting structure is adapted to cradle an ordnance device in a sphere-like or egg-shaped support.

37.13 Bases:
This subclass is indented under subclass 37.01. Devices wherein the supporting structure includes a firm foundation for resting an ordnance device.

37.14 Reciprocating mounts:
This subclass is indented under subclass 37.01. Devices wherein the supporting structure includes means that dampen the recoil or rapid fire ordnance devices.

37.15 With body protecting devices:
This subclass is indented under subclass 37.01. Devices wherein the supporting structure includes gripping handles, breast pads, head pieces, or shoulder devices for preventing harm to personnel that operate an ordnance device.

37.16 Aircraft type:
This subclass is indented under subclass 37.01. Devices wherein the ordnance supporting structure is mounted on some portion of the structure of an aircraft.

37.17 Power operated:
This subclass is indented under subclass 37.16. Devices having a source of power, other than manual, for directing the ordnance supporting structure at a target.

37.18 On engine:
This subclass is indented under subclass 37.16. Devices wherein the ordnance supporting device is mounted on the wings of the aircraft.

37.19 On aircraft wing:
This subclass is indented under subclass 37.16. Devices wherein the ordnance supporting device is mounted on the wings of the aircraft.

37.21 Retractable gun turret:
This subclass is indented under subclass 37.16. Devices wherein the ordnance supporting structure is a dome-shaped or cylindrical structure having observation slits or gun ports and is capable of being drawn back or into the aircraft structure.

37.22 Multiple guns on mount:
This subclass is indented under subclass 37.16. Devices wherein the ordnance supporting structure has more than one ordnance device supported thereon.

38 Disappearing gun:
This subclass is indented under subclass 37.01. Mounts for guns made to disappear after firing to be reloaded.

39 Counterpoise:
This subclass is indented under subclass 38. Mounts which are balanced by a weight or weights.

40.01 For field use:
This subclass is indented under subclass 37.01. Devices wherein the ordnance supporting structure is particularly adapted to be utilized in the field and mobile enough to be readily moved.

40.02 Wheeled mortars:
This subclass is indented under subclass 40.01. Devices having wheels attached to the ordnance supporting structure and an ordnance device mounted thereto which is adapted to be fired at elevation angles greater than 45°.

SEE OR SEARCH THIS CLASS, SUBCLASS:
1.3, for muzzle loading device.
1.35, for trench mortars.
37.05, for mortars mounts that do not have wheels.

40.03 On armored car:
This subclass is indented under subclass 40.01. Devices wherein the ordnance supporting structure is mounted on a wheeled motor vehicle having protective armor plate designed for combat use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
36.08, for self-propelled vehicles, e.g., tanks, etc.

40.04 Nonshielded motor driven guns:
This subclass is indented under subclass 40.01. Devices wherein the wheeled motor vehicle is not provided with armor protection.

40.05 On sleds:
This subclass is indented under subclass 40.01. Devices wherein the ordnance supporting device and the ordnance piece are mounted and moved into field operation on skids or runners.

40.06 On tripods (i.e., for light guns):
This subclass is indented under subclass 40.01. Devices wherein the field mount is a three-leg supporting structure and the ordnance device is of such small size as to be readily movable by the user in the field.

40.07 Limbers and caissons:
This subclass is indented under subclass 40.01. Devices comprising wheeled devices, usually two-wheeled type, for the transport of ammunition with the ordnance device in the field.

40.08 With hitches and couplings:
This subclass is indented under subclass 40.01. Devices including means for attaching an ordnance device to its ammunition supply vehicle while both are being repositioned in the field.

40.09 With training spades:
This subclass is indented under subclass 40.01. Devices including projections on the ordnance training for digging into the earth to prevent the ordnance supporting structure from moving during recoil.

40.11 Carriage suspended for firing:
This subclass is indented under subclass 40.01. Devices wherein the weight of the ordnance device and supporting structure, though borne by wheels when being positioned in the field, are supported by auxiliary structure when the ordnance is discharged.

40.12 Traveling locks:
This subclass is indented under subclass 40.01. Devices including devices for holding the ordnance device in a fixed position with respect supporting structure while the supporting structure is being repositioned in the field.

40.13 By separate transport carriage:
This subclass is indented under subclass 40.01. Devices wherein the ordnance device is moved in the field on vehicle-type devices from which the ordnance must be removed before actual use.

40.14 Components are separable for transport:
This subclass is indented under subclass 40.01. Devices wherein the ordnance device is adapted to be broken down into modular components for repositioning the field, e.g., the ordnance barrel is separated from its cradle during field movements, etc.

40.15 Trail carriages and links:
This subclass is indented under subclass 40.01. Devices comprising wheeled vehicles upon which ordnance devices are mounted for in-field service.

40.16 Railroad type:
This subclass is indented under subclass 40.01. Devices wherein an ordnance device is mounted and transported by and/or fixed from a railroad car.

41.01 Training mechanisms:
This subclass is indented under subclass 37.01. Devices wherein the ordnance supporting structure includes means for directly moving the supporting structure to aim or direct an ordnance device at a target.

SEE OR SEARCH CLASS:
434, Education and Demonstration, subclasses 11 through 27 for training mechanisms for teaching gunnery.

41.02 Motor operated:
This subclass is indented under subclass 41.01. Devices having a source of power, other than manual for directing the ordnance device at a target.

41.03 Predetermining parameters for automatic firing:
This subclass is indented under subclass 41.02. Devices including means for automatically firing the ordnance device and determining the various individual ballistic parameters used in firing gun, e.g., barrel droop, powder temperature, tube ware velocity of round fired, etc.

41.04 Eliminates lag or overrun:
This subclass is indented under subclass 41.02. Devices wherein the power source includes antihunt devices, e.g., position, velocity or higher deriviates feedback, etc.

SEE OR SEARCH CLASS:
91, Motors: Expansible Chamber Type, subclasses 358 through 389 for feedback to hydraulic motor.
318, Electricity: Motive Power Systems, subclass 628 for feedback to electric motors.

41.05 By television monitoring;
This subclass is indented under subclass 41.02. Devices wherein a target area is viewed by means of a television camera, e.g., iconoscope, etc., and the target scene is converted into an electronic image which is reproduced into a visual image on a television viewing screen for controlling the motor.

(1) Note. Night vision devices are proper for this subclass.

SEE OR SEARCH CLASS:
348, Television, subclass 143 for television surveillance.

41.06 By light reception:
This subclass is indented under subclass 41.02. Devices having means for receiving light either originating from a target or reflected by the target from a light source originating from the ordnance for controlling the motors which direct the ordnance device at a target.

(1) Note. Laser range finders in combination with ballistic computers controlling the aiming of an ordnance device are proper for this subclass.

SEE OR SEARCH CLASS:
356, Optics: Measuring and Testing, subclasses 3.01 through 3.09 , 4.01-5.15, 5.01-5.08, 139.04 through 139.1, 141.1 through 141.5 and 152.1 through 152.3 for laser direction and distance detectors.

41.07 By radar:
This subclass is indented under subclass 41.02. Devices including means utilizing short radio wave signals to control the power source in aiming an ordnance device.

41.08 By sound:
This subclass is indented under subclass 41.02. Devices including means utilizing acoustic energy to control the power source in aiming an ordnance device.

SEE OR SEARCH CLASS:
181, Acoustics, subclass 125 for sound locating apparatus.

367, Communications, Electrical: Acoustic Wave Systems and Devices, subclasses 118 through 130 for distance or direction finding.

41.09 Gyroscopically or pendulum controlled:
This subclass is indented under subclass 41.02. Devices having initial means to actuate and maintain the equilibrium of the ordnance device.

(1) Note. Ordnance devices mounted on aircraft, ships, and tanks are proper for this subclass.

41.11 Compensates for trunion tilt:
This subclass is indented under subclass 41.02. Devices including means to correct for or offset the effects of a nonlevel condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
37.09, for leveling the gun mount.

41.12 By hydraulic means:
This subclass is indented under subclass 41.02. Devices having an expansible chamber motor to control the aiming of an ordnance device.

SEE OR SEARCH CLASS:
91, Motors: Expansible Chamber Type, appropriate subclasses for hydraulic motors, per se.

41.13 For scattering effect:
This subclass is indented under subclass 41.02. Devices having means to vary the direction at which the ordnance devices is aimed between individual rounds to achieve a dispersion pattern (shot gun effect) at a target.

41.14 For naval gun fire control:
This subclass is indented under subclass 41.02. Devices wherein the ordnance device supporting structure and aiming mechanism is mounted aboard a naval vessel, i.e., for use in water, and firing is controlled therefrom.

41.15 With unitary control for plural motors:
This subclass is indented under subclass 41.02. Devices wherein the power source includes a single control means, e.g., joy stick, etc. for controlling both movement of the azimuth and the elevation motors.

41.16 For relatively movable gun barrels:
This subclass is indented under subclass 41.01. Devices including means to adjust the gun barrels relative to each other for the purpose of effecting parallelism amongst the barrels or to converge a volley of rounds to a target.

41.17 Aiming device mounted on gun:
This subclass is indented under subclass 41.01. Devices wherein the supporting structure includes an ordnance device that has an aiming device directly attached to an ordnance barrel.

(1) Note. The aiming devices include sights, lights, etc.

SEE OR SEARCH CLASS:
42, Firearms, subclasses 1.01 through 1.05 for lights, sights and telescopes mounted on a firearm.
362, Illumination, subclasses 110 through 114 for lights that illuminate the line of fire.

41.18 For limiting the field of fire:
This subclass is indented under subclass 41.01. Devices wherein the supporting structure includes means to prevent aiming an ordnance device in certain predetermined directions to avoid damaging the structure on which the ordnance is mounted or other surrounding friendly structures.

SEE OR SEARCH THIS CLASS, SUBCLASS:
134, for devices for rendering the firing devices of gun inoperative when the guns are pointed in certain predetermined directions, to avoid damaging the structure surrounding the guns.

41.19 Sights or line devices:
This subclass is indented under subclass 41.01. Devices having attachments for ordnance devices whereby a line of sight may be established parallel to the longitudinal axis of the ordnance device and/or at angle thereto.

SEE OR SEARCH CLASS:
235, Registers, subclasses 400 through 418 for ordnance or weapon system computers.

340, Communications: Electrical, subclasses 12.5 through 12.51, 13.25, and 13.26 for miscellaneous radio wave energy control systems.

356, Optics: Measuring and Testing, subclasses 247 through 255 for fiducial instruments including recticles and deflection of the line of sight.

41.21 On aircraft:

This subclass is indented under subclass 41.19. Devices wherein the aiming sight device is mounted on the structure of an aircraft.

SEE OR SEARCH CLASS:

33, Geometrical Instruments, subclasses 229 through 231 for bombsights.

41.22 For anti-aircraft:

This subclass is indented under subclass 41.19. Devices wherein the aiming sight device is for the purpose of directing the ordnance fire at aerial targets.

42.01 With recoil check:

This subclass is indented under subclass 37.01. Devices wherein the supporting structure for the ordnance device includes a mechanism designed to absorb the energy of recoil in such manner as to prevent violent movement of the ordnance-supporting carriage.

SEE OR SEARCH THIS CLASS, SUBCLASS:

4.05 through 4.5, for explosion-opened breech guns with recoiling barrels.

160 through 178, for automatic guns with movable barrels.

177, for automatic guns with barrel buffers.

SEE OR SEARCH CLASS:

42, Firearms, subclass 75.01 for barrel mounts for recoiling barrel automatic guns.

181, Acoustics, subclass 223 for gun silencers, per se.

42.02 On trail spade:

This subclass is indented under subclass 42.01. Devices wherein the shock absorbing mechanism is located on the supporting structure which is normally embedded in the ground to restrict movement of the carriage during recoil.

42.03 Fire-out-of-battery type:

This subclass is indented under subclass 42.01. Devices wherein there is recoil energy compensation and compensation for the forward movement of the ordnance device while being discharged.

43.01 Fluid:

This subclass is indented under subclass 42.01. Devices wherein the recoil absorbing mechanism includes a device which utilizes compression of air, water, or other liquid or gaseous material for its energy absorbing operation.

43.02 With function of elevation:

This subclass is indented under subclass 43.01. Devices wherein there is compensation of the compressed fluid as ordnance device is elevated or lowered so as to maintain proper center of gravity for the ordnance device.

44.01 Spring type:

This subclass is indented under subclass 42.01. Devices wherein the recoil absorbing mechanism includes resilient means.

44.02 Elastic type:

This subclass is indented under subclass 44.01. Devices wherein the resilient means are stretchable, flexible expandable, etc., (e.g., rubber type, etc.).

45 LOADING:

This subclass is indented under the class definition. Devices for getting the load into firing position in the gun not otherwise classifiable.

SEE OR SEARCH THIS CLASS, SUBCLASS:

4.05 through 4.5, for explosion opened breech guns involving features additional to gun loading.

33.01 through 35.02, for devices to hold and/or feed a plurality of cartridges to a gun.

46 Hoisting apparatus:

This subclass is indented under subclass 45. Apparatus for raising the load to the muzzle or breech of the gun.

47 Rammers:
This subclass is indented under subclass 45. Devices for ramming or pushing the load into the gun.

125 AUTOMATIC:
This subclass is indented under the class definition. Guns in which the forces developed by the explosion cause operation of the breechblock, firing mechanism, and self-loading mechanism.

(1) Note. In order to cause classification in this or the indented subclasses, the firearm must be of the self-loading explosion-operated type, and all devices of this type and subcombinations thereof are placed in these subclasses with the exceptions noted in the notes of this subclass.

(2) Note. Explosion-operated means are the gas piston, barrels which move due to the explosion and operate the gun mechanism, breechblocks having features for blow-back, means operated by motion of the projectile, and breechblocks having springs or other means which will cause the breechblock to return to closed position.

(3) Note. This and the indented subclasses have both hand and shoulder firearms and the heavier firearms and mounted ordnance.

(4) Note. Appended to this subclass and to the indented subclasses are notes setting forth related subject matter classified in other classes and in other subclasses of this class with a more specific statement of the particular lines followed.

(5) Note. The term “automatic” as normally used in the patents of this art has two distinct meanings: (a) To indicate automatic gun operation, where the gun is entirely self-loading; and (b) to indicate automatic firing control, where the automatic gun is constructed to fire continuously while the trigger is held retracted, as long as the ammunition supply will permit.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.1, for conventional automatic ordnance combined with auxiliary means for placing the gun in condition to begin automatic fire, e.g., breechblock retracting means, etc.

4.05 through 4.5, for explosion-opened breech guns, i.e., guns having explosion-operated features as defined in (2) Note but of the nonself-loading type. The line is disclosure. In all cases where the disclosure is not clear that the gun is of the nonself-loading type, classification is in subclasses 125-199.

9 through 13.1, for nonautomatic rapid-fire guns in which external mechanical means are employed to load, fire and reload the gun.

27.11 through 28.2, for firing devices for nonautomatic ordnance.

33.01 through 35.02, for conventional automatic ordnance claimed in combination with cartridge feeding devices.

37.01 through 44.02, for conventional automatic guns claimed in combination with mount structures.

41.01 through 206, for guns having explosion-operated means for changing the angle of fire (in any direction) and including for example explosion-operated traversing and plural barrels with explosion-operated means to cause the angles between the barrels to change.

45 through 47, for loading apparatus for nonautomatic ordnance.

SEE OR SEARCH CLASS:

42, Firearms, subclass 16 for conventional automatic firearms of the rearward sliding-breech block type combined with auxiliary devices for manually retracting the breechblock; subclasses 59+, for nonautomatic firearm revolvers; all “magazine” subclasses, for cartridge holders for or combined with conventional automatic firearms; subclasses 69.01+, for miscellaneous firing mechanisms for nonautomatic firearms.

60, Power Plants, subclasses 632 through 638 for one shot explosion-actuated expansible chamber-type motors.

126 Plural gun, barrel or bore:
This subclass is indented under subclass 125. Guns or gun assemblies in which two or more guns, barrels or barrel boxes are claimed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
9 through 13.1, for nonautomatic, machine guns with plural barrels or boxes.

127 Firing control:
This subclass is indented under subclass 126. Guns with particular firing control mechanisms.

SEE OR SEARCH THIS CLASS, SUBCLASS:
132 through 154, for firing control for single barrel guns.

128 Convertible gun operation (e.g., to nonautomatic):
This subclass is indented under subclass 125. Guns convertible to different types of automatic gun operation, to nonautomatic gun operation.

(1) Note. The different types of operation may relate to the breech locking means, or the cartridge feeding, extracting or ejecting means, for examples.

(2) Note. This subclass includes, for example, recoiling barrel guns having means settable to prevent the barrel from recoiling.

SEE OR SEARCH THIS CLASS, SUBCLASS:
129.01 through 131, 140-142, for convertible firing control as distinguished from convertible gun operation.
169, 170, for barrel latches for other purposes.
193, for gas piston-operated guns with shutoff valves to convert the gun to nonautomatic operation.

129.01 Regulation or speed or rate of automatic fire:
This subclass is indented under subclass 125. Devices having means for regulating the rate of continuous or automatic fire.

(1) Note. This subclass and the indented subclasses, include means for controlling or adjusting the cyclic period of the gun mechanism as well as the time of automatic release of the firing member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
132, for trigger-operated firing control means.
169, for breach block acceleration for recoiling barrel guns.
177, for barrel buffers and breaks.
193, for gas regulators for gas piston guns.
198, for breech block buffers and brakes.

129.02 By regulating burst:
This subclass is indented under subclass 129.01. Devices having means which can control the number of rounds which can be fired by an automatic ordnance device.

130 By regulating time of return of breech block:
This subclass is indented under subclass 129.01. Guns wherein the return of the breech block is delayed for a predetermined time, e.g., by a breech block sear controlled by a clock escapement or fluid check, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
143, for trigger control of breech mechanism in semi-automatic fire.

131 By regulating time of release of hammer:
This subclass is indented under subclass 129.01. Guns wherein the release of the hammer is delayed for a predetermined time after the closing of the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:
149, through 154, for means for automatically firing when, or preventing firing until, the breech block or barrel moves into battery (firing) position.

132 Firing device operation or control (e.g., full automatic, etc.):
This subclass is indented under subclass 125. Guns where features of the firing mechanism are claimed as a part of the invention.

(1) Note. The firing mechanism includes the firing pin and the mechanism for controlling or actuating the same, e.g., trigger, sear, etc. Where the breech block and its controlling or actuating means are claimed the mere statement that it carries a firing pin will not cause classification in this or the indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27.11 through 28.2, for firing devices for nonautomatic ordnance.

SEE OR SEARCH CLASS:
42, Firearms, subclasses 69.01 through 69.03, for firing devices for nonautomatic firearms.

133 Synchronizers:
This subclass is indented under subclass 132. Guns wherein the firing device is synchronized with a moving nongun element such as an aircraft propeller, for example.

SEE OR SEARCH THIS CLASS, SUBCLASS:
127, for synchronized firing of plural guns.

134 Disabled at predetermined angles of fire:
This subclass is indented under subclass 132. Guns having means to prevent firing towards parts of the structure on which the gun is mounted.

SEE OR SEARCH THIS CLASS, SUBCLASS:
41.01, for gun mounts having means to prevent pointing the gun in predetermined directions.

135 Electrical:
This subclass is indented under subclass 132. Guns with claimed electrical operation or control for the firing device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
28.05, for electrical firing devices for nonautomatic ordnance.
134, for electrical firing devices which are disabled at predetermined angles of fire.

SEE OR SEARCH CLASS:
42, Firearms, subclass 84, for electrical appliances including firing devices for nonautomatic firearms.

136 Triggers and/or remote control:
This subclass is indented under subclass 132. Guns wherein a particular trigger is claimed. The trigger may be mounted on the gun or remote therefrom.

(1) Note. The term “trigger” is used to designate the manually operated element or mechanism arranged to release the sear from the striker. The sear releasing device is sometimes called a “trigger motor”.

SEE OR SEARCH THIS CLASS, SUBCLASS:
27.11 through 28.3, for triggers for nonautomatic ordnance.
127, for firing control for plural guns, barrels or bores.
133, for triggers synchronized with aircraft propellers.
135, for electrical triggers.

SEE OR SEARCH CLASS:
42, Firearms, subclasses 69.01 through 69.03 for triggers for nonautomatic firearms.

137 Interlocks between firing and cartridge feeding:
This subclass is indented under subclass 132. Guns having interlocks between the firing mechanism and cartridge feeding mechanism.

(1) Note. Usually the interlock is designed to prevent firing when the magazine is empty, or removed from the gun.

138 Locks bolt open:
This subclass is indented under subclass 137. Guns wherein the breech block is locked open after the last cartridge is fed from the magazine.

139 Semi-automatic (e.g., double sear, etc.):
This subclass is indented under subclass 132. Guns capable of semi-automatic firing operation.

(1) Note. The term "semi-automatic", as applied to gun firing, is used to designate a firing device which requires manual release of the trigger after each shot before the next shot can be fired.

(2) Note. Firing mechanisms comprising two trigger-operated sears (or sear shoulders) alternately engageable with the hammer are placed in this subclass (139).

SEE OR SEARCH THIS CLASS, SUBCLASS:
132, and 149 to 154, for guns capable of full automatic fire only.

140 Convertible to full automatic:
This subclass is indented under subclass 139. Guns wherein the firing device is selectively operable either full-automatic or semi-automatic.

(1) Note. The terms "full-automatic" or "automatic" are applied to firing devices which effect continuous fire as long as the trigger is retracted and ammunition is supplied to the gun.

SEE OR SEARCH THIS CLASS, SUBCLASS:
128, for convertible gun operation.
129.01 through 132, for guns convertible to different rates of automatic fire.

141 Breech block, barrel or hammer disconnected:
This subclass is indented under subclass 140. Guns wherein the trigger and sear are automatically disconnected by the motion of some gun element other than the trigger or sear, e.g., breech block, barrel or hammer, etc., when operating in semiautomatic condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
145, and 146, for similar firing devices in guns capable of semiautomatic fire only.

142 With selective safety device:
This subclass is indented under subclass 140. Convertible firing mechanisms provided with a selectively operable safety device for preventing firing.

SEE OR SEARCH THIS CLASS, SUBCLASS:
148, for similar safety devices for nonconvertible firing mechanisms.

143 Alternate control of hammer and breech block or barrel:
This subclass is indented under subclass 139. Guns wherein the trigger alternately controls the hammer and either the breech block or a movable barrel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
139, for alternate control of two hammer sears.

144 With means for disconnecting trigger and sear:
This subclass is indented under subclass 139. Guns having means for disconnecting the trigger and sear.

SEE OR SEARCH THIS CLASS, SUBCLASS:
140 through 142, for similar firing devices convertible to full-automatic fire and/or safe condition.
148, for selective safety devices including those in which the trigger and sear are disconnected to prevent firing.

145 By breech block or barrel motion:
This subclass is indented under subclass 144. Guns wherein the trigger and sear are automatically disconnected by motion of the breech block or barrel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
141, for similar disconnection in convertible firing devices.

146 Hammer disconnected:
This subclass is indented under subclass 144. Guns wherein the trigger and sear are automatically disconnected by the motion of the hammer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
141, for similar disconnections in convertible firing devices.

147 Hammer cocked and released by trigger:
This subclass is indented under subclass 139. Guns wherein the hammer is cocked and released by a continuous pull on the trigger.

(1) Note. These firing devices are closely analogous to firing devices for double acting revolvers.

SEE OR SEARCH CLASS:
42, Firearms, subclasses 65 through 67 and 69.01-69.03 for similar firing devices for nonautomatic firearms.

148 With selective safety device:
This subclass is indented under subclass 132. Firing devices provided with a selectively operable safety device for preventing firing.

SEE OR SEARCH THIS CLASS, SUBCLASS:
142, for similar safety devices for convertible firing mechanisms.

SEE OR SEARCH CLASS:
42, Firearms, subclasses 66 and 70.01-70.11 for miscellaneous safety devices for gun firing mechanisms.

149 With automatic sear or sear release:
This subclass is indented under subclass 132. Guns having means automatically operable by motion of breech block or barrel into firing position to release either the trigger operated sear or a separate sear, to effect firing.

(1) Note. The separate sear is sometimes termed a “safety sear”, or “automatic sear”.

SEE OR SEARCH THIS CLASS, SUBCLASS:
150, for automatic safety devices to prevent premature operation of the sear or trigger.
151 through 152, for devices other than sears to automatically effect firing.

150 With automatic sear or trigger safety:
This subclass is indented under subclass 132. Guns having means automatically operable by motion of breech block or barrel into battery position to release a safety lock for a sear or trigger.

SEE OR SEARCH THIS CLASS, SUBCLASS:
149, for automatic sears or sear releasing devices.
154, for automatic hammer safety devices.

SEE OR SEARCH CLASS:
42, Firearms, subclasses 66 and 70.01-70.11 for nonautomatic (manually operated) sear or trigger safety locks.

151 With automatic hammer:
This subclass is indented under subclass 132. Guns having means automatically operable by motion of breech block or barrel into battery position to effect firing movement of the hammer, e.g., inertia-operated firing pins or hammers, etc.

(1) Note. Usually the hammer is automatically cocked.

SEE OR SEARCH THIS CLASS, SUBCLASS:
149, for automatic sear release means.

152 Operates breech lock:
This subclass is indented under subclass 151. Guns in which the automatic hammer also operates the breech lock, e.g., a firing pin carried by a gas piston-operated action slide, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

153, for breech locks operated by an element of the firing device other than an automatic hammer.

153 Operates breech lock:

This subclass is indented under subclass 132. Guns in which the firing device also operates the breech block lock.

SEE OR SEARCH THIS CLASS, SUBCLASS:

152, for breech locks operated by an automatic hammer.

155, through 190, for automatic breech locks operated independently of the firing devices.

154 With automatic hammer cocking and/or safety means:

This subclass is indented under subclass 132. Guns having means automatically operable by motion of breech block or barrel to cock the hammer and/or to operate a hammer safety device.

(1) Note. The hammer safety device is operative only when the breech is open or unlocked. Any movement of the hammer or firing pin upon release of the safety device is insufficient to cause firing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

142, and 148, for selective safety devices for firing mechanisms of automatic guns.

149, for automatic sears which when released permit firing movement of the hammers.

151, for hammers which are automatically cocked and fired.

SEE OR SEARCH CLASS:

42, Firearms, subclasses 66 and 70.01-70.11 for miscellaneous safety devices for gun firing mechanisms.

155 Movable chamber type (e.g., revolver, etc.):

This subclass is indented under subclass 125. Guns wherein the cartridge is fired in a movable firing chamber, e.g., a revolver cylinder actuated by a gas piston, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

13.05 through 13.1, for nonautomatic machine guns with revolving chambers.

SEE OR SEARCH CLASS:

42, Firearms, subclasses 15, 27, 39.5, 59-68, for nonautomatic firearms with movable chambers.

156 Operating as gas piston and/or recoil member:

This subclass is indented under subclass 155. Guns wherein the movable chamber operates as a gas piston and/or a recoil member to unlock and/or open the breech.

SEE OR SEARCH THIS CLASS, SUBCLASS:

159, and 191.01-193, for other gas piston-operated guns.

157 Recoiling barrel with revolving chambers:

This subclass is indented under subclass 155. Guns with a recoiling barrel and revolving chambers actuated by the recoil movement of the barrel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

159, and 162-176, for other recoiling barrel guns.

158 Movable butt piece:

This subclass is indented under subclass 125. Guns wherein the breech mechanism is actuated by the recoil of the gun proper relative to a butt-piece movable on the shoulder stock.

(1) Note. Patents claiming a movable butt-piece and disclosing or claiming possibly novel breech locking structure are cross-referenced into the appropriate subclass indented under subclass 180 below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

180 through 190, for breech block locks and see (1) Note.

SEE OR SEARCH CLASS:

42, Firearms, subclasses 71.01 through 74 for stock structure, per se.

159 Combined movable barrel and gas operated:

This subclass is indented under subclass 125. Guns having interrelated movable barrel and gas-operated features.

(1) Note. Where the gas-operated feature involves nothing more than blow back of the breech block or blow forward of the barrel after being unlocked, classification is elsewhere. See the search notes below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

37.01 through 44.02, for gun mounts for conventional movable guns.

160 through 178, for a gas-operated feature involving nothing more than blow back of the breech block or blow forward of the barrel after being unlocked.

160 Movable barrel (e.g., rotary, etc.):

This subclass is indented under subclass 125. Guns in which the barrel is movably mounted relative to the stock.

(1) Note. This subclass (160) takes guns having barrel movement other than forward and rearward reciprocation, e.g., rotary only, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

159, for movable barrel guns having gas-operated features other than mere blow back.

161 Forwardly movable:

This subclass is indented under subclass 160. Guns wherein the barrel moves forwardly relative to the stock or other mount when a shot is fired.

(1) Note. Usually the breech block is fixed, and the barrel is not locked in battery position. These are sometimes called "Blow Forward" guns.

SEE OR SEARCH CLASS:

42, Firearms, subclasses 10 through 11 for nonautomatic guns having forwardly movable barrels.

162 Rearwardly movable:

This subclass is indented under subclass 160. Guns wherein the barrel recoils rearwardly relative to the stock or other mount.

(1) Note. The breech block is usually locked to the barrel when the shot is fired, and is unlocked by the movement of the barrel on recoil. The locking member may be mounted on either the breech block or the barrel.

(2) Note. Usually the barrel has axial, rectilinear motion.

(3) Note. In this and indented subclasses the motion of the breech block considered is that relative to the barrel to open the breech for reloading.

SEE OR SEARCH THIS CLASS, SUBCLASS:

4.05 through 4.5, for explosion-opened breech guns with recoiling barrels.

155, and 156, for guns in which the chamber only is movable.

157, for recoiling barrels with revolving chambers.

SEE OR SEARCH CLASS:

42, Firearms, subclasses 75.01 through 75.1 for barrel mounts for recoiling barrels.

163 Barrel having motion in addition to axial, rectilinear:

This subclass is indented under subclass 162. Guns wherein the barrel has motion in addition to axial, rectilinear motion, e.g., rotary, tilting, transverse sliding, etc.

164 With breech lock latch:
This subclass is indented under subclass 162. Guns having means automatically operable to latch the breech block lock in unlocked position during a predetermined portion of the gun operating cycle.

165 Long recoil:
This subclass is indented under subclass 162. Guns, usually termed "long recoil guns", wherein the barrel and breech block recoil substantially the same distance, and the fired shell is extracted by the subsequent counter recoil (forward) movement of the barrel relative to the breech block.

(1) Note. The breech block (or an auxiliary cartridge fed slide) is usually held in recoil position during extraction by a catch which is automatically released after extraction is completed.

(2) Note. So called "short recoil" guns are distributed among the various subclasses indented under subclass 162, particularly subclasses 171 through 176.

SEE OR SEARCH THIS CLASS, SUBCLASS:
163, 169 through 176, for "short recoil" guns, i.e., those in which the barrel recoils are relatively short distance locked to the breech block, and then the breech block is unlocked and continues to recoil, extracting the fired shell.

166 Nonrectilinear breech block motion:
This subclass is indented under subclass 165. Guns wherein the breech block motion or one component thereof is nonrectilinear.

(1) Note. Usually the motion is a combined one, e.g., tilting or rotary and sliding, etc.

167 Nonaxial rectilinear breech block motion:
This subclass is indented under subclass 165. Guns wherein the breech block motion is rectilinear but nonaxial relative to the barrel, e.g., transverse sliding, etc.

168 Pivoted locking member or toggle lock:
This subclass is indented under subclass 165. Guns with a pivoted member or toggle for locking the breech block.

169 With accelerator and/or unlocking lever for breech mechanism:
This subclass is indented under subclass 162. Guns provided with a means for accelerating the rearward movement of the breech mechanism (or a part thereof) relative to the barrel.

(1) Note. In some guns, the accelerator also serves as a barrel latch.

170 With barrel latch:
This subclass is indented under subclass 162. Guns provided with means for latching the barrel in recoiled position during the opening and closing of the breech.

SEE OR SEARCH THIS CLASS, SUBCLASS:
128, for barrel locks for preventing recoil of the barrel.
169, for accelerators serving as barrel latches.

171 Nonrectilinear breech block motion (e.g., tilting rotary, etc.):
This subclass is indented under subclass 162. Guns wherein the breech block motion or one component thereof is nonrectilinear.

(1) Note. Usually the motion is a combined one, e.g., tilting and sliding, etc.

172 Rotary and sliding:
This subclass is indented under subclass 171. Guns wherein the breech block rotates and slides.

173 Sliding locking member:
This subclass is indented under subclass 162. Guns in which a locking member slides relative to the breech block.

174 Rotary locking member:
This subclass is indented under subclass 162. Guns with a breech block locking member rotatable about the barrel axis.

175 Toggle locking member:
This subclass is indented under subclass 162. Guns with a toggle lock for the breech block.

(1) Note. The term "toggle" is applied herein to an assembly of two links pivoted together at one end and pivoted to the breech block and the barrel extension at the other end, and arranged substantially in a straight line, the toggle being broken during recoil to allow the breech block to be moved to loading position by blow back or otherwise.

176 Pivoted locking member:
This subclass is indented under subclass 162. Guns with a pivoted member for locking the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:
175, for pivoted locking members of the toggle type.

177 Barrel buffers and brakes:
This subclass is indented under subclass 160. Guns wherein the barrel is provided with either a buffer to absorb excess recoil or counter-recoil energy, or a brake to retard the rate of recoil or counter-recoil motion.

(1) Note. The intended function of the barrel buffer may be that of increasing the rate of fire.

(2) Note. To cause classification in this subclass, the buffer must involve more than a rigid stop surface and more than a barrel return spring.

SEE OR SEARCH THIS CLASS, SUBCLASS:
42.01 through 44.02, for recoil checks for nonautomatic guns.
129.01 through 131, for devices other than buffers or brakes for regulating the rate of fire.
178, for barrel recoil springs.
198, for other buffers and brakes.

SEE OR SEARCH CLASS:
188, Brakes, for pertinent subclass(es) as determined by schedule review.
267, Spring Devices, for pertinent subclass(es) as determined by schedule review.

178 Barrel return means:
This subclass is indented under subclass 160. Guns in which the invention lies in the means for returning the barrel to firing position.

(1) Note. The return means is usually a spring device, which also opposes the recoil of the barrel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
42.01 through 44.02, for similar devices for nonautomatic guns.
177, for barrel buffer springs, claimed per se or combined with barrel return means.
199, for breech-block return means.

SEE OR SEARCH CLASS:
267, Spring Devices, for pertinent subclass(es) as determined by schedule review.

179 Gas piston-type lock actuator carried by breech block (e.g., firing pin, etc.):
This subclass is indented under subclass 125. Guns in which the breech block is unlocked by a gas piston-type actuator carried by the breech block.

(1) Note. The actuator may be actuated by recoil of either the entire cartridge or the primer thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
156, for guns having movable chambers serving as gas pistons.
183, for lock operating inertia members started by slight blow back of the entire breech block.

180 Breech block lock (positive or impositive):
This subclass is indented under subclass 125. Guns in which the claimed inventions is limited to a breech block locking or retarding means.

(1) Note. The breech block may be either positively locked in breech closed posi-

tion against any substantial blow back motion, or merely initially retarded. To cause classification in this or indented subclasses, the patents must claim some locking or retarding means other than the breech block recoil spring, a brake, or the inertia of the parts.

(2) Note. Patents claiming breech block locking structure and also claiming or disclosing novel gas piston structure will be classified here and cross-referenced to the appropriate gas piston subclasses 191.01-193.

(3) Note. The breech block locking member may be movably mounted on either the breech block or the stationary receiver or frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

17 through 26, for breech block locks for nonautomatic ordnance.
159 through 178, for breech block locks for movable barrel guns.
191.01 through 193, and see (2) Note.
194 through 197, for inertia-locked or "blow back" guns.
198, for brakes for retarding substantially the entire motion of the breech block.

SEE OR SEARCH CLASS:

42, Firearms, appropriate subclasses, for breech block locks for nonautomatic firearms.

181 With latch:

This subclass is indented under subclass 180. Guns provided with a latch for the locking means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

164, for similar latches for recoiling barrel guns.

182 Inertia member released lock:

This subclass is indented under subclass 180. Guns in which the breech block lock is unlocked or released by a separate member movable by inertia relative to the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:

156, for inertia-operated movable chambers.
162 through 176, for inertia-operated barrels.

183 Blow back initiated:

This subclass is indented under subclass 182. Guns in which the inertia member is started by a slight blow back motion of the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:

179, for breech block locks operated by blow back of a part only of the breech block.
194 through 197, for blow back guns having no breech lock.

184 Nonrectilinear breech block motion (e.g., tilting rotary, etc.):

This subclass is indented under subclass 180. Guns in which the breech block motion or one component thereof is nonrectilinear, e.g., tilting rotary, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

166 and 171-172, for movable barrel guns with nonrectilinearly movable breech block.

185 Rotary and sliding:

This subclass is indented under subclass 184. Guns in which the motion is that of rotating and sliding.

186 Nonaxial, rectilinear, breech block motion:

This subclass is indented under subclass 180. Guns in which the breech block motion is rectilinear but nonaxial, e.g., transverse sliding, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

167, for long recoil, movable barrel guns with nonaxial, rectilinear breech block motion.

187.01 Sliding locking member:

This subclass is indented under subclass 180. Devices including means with a sliding member for locking the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:

173, for short recoil, movable barrel guns with sliding locks.

187.02 Cylindrical or ball bearing:

This subclass is indented under subclass 187.01. Devices wherein the sliding member is columnar in shape or includes a ball shape bearing.

188 Rotary locking member:

This subclass is indented under subclass 180. Guns with a breech block locking member rotatable about the barrel axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:

174, for short recoil, movable barrel guns with rotary locks.

189 Toggle locking member:

This subclass is indented under subclass 180. Guns with a toggle lock for the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:

168, and 175, for movable barrel guns with toggle locks.

190 Pivoted locking member:

This subclass is indented under subclass 180. Guns with a pivoted member for locking the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:

168, and 176, for movable barrel guns with pivoted locks.

191.01 Gas piston type:

This subclass is indented under subclass 125. Devices having a gas-operated cylinder device, the movement of which operates the extracting and reloading mechanism of an automatic ordnance device.

(1) Note. Blow back guns (no breech lock) are excluded from this and indented subclasses.

(2) Note. To cause original classification herein, the claims must be directed to the structure of the gas port, cylinder, or piston, and/or the connection with the breech block lock and must not include any specific breech block lock.

(3) Note. Usually the gas piston unlocks the breech block lock, but in some guns it serves to retard blow back of the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:

156, for movable chambers operating as gas pistons.

159, for combined movable barrel and gas operated guns.

179, for gas pistons carried by the breech block.

180 through 190, for gas piston-type guns where the claims include a breech block lock.

194 through 197, for blow back guns.

191.02 Annular piston:

This subclass is indented under subclass 191.01. Devices wherein the gas-operated device is circular in shape.

192 Gas piston compresses breech opening spring:

This subclass is indented under subclass 191.01. Guns in which the exploding gases move a gas piston to compress a spring, which, after the gas drops to a predetermined value, unlocks and moves the breech block to open position.

193 Gas ports and/or regulators:

This subclass is indented under subclass 191.01. Guns with specific gas ports, cylinders, and/or regulators.

SEE OR SEARCH CLASS:

138, Pipes and Tubular Conduits, subclasses 37 through 46 for regulators, per se.

251, Valves and Valve Actuation, appropriate subclasses for valve structure, per se.

194 Blow back breech block:

This subclass is indented under subclass 125. Guns in which a breech block, having rectilinear motion only, is not locked, but is resiliently

held in breech closing position solely by its own inertia and its recoil or return spring.

(1) Note. Classification is in this or indented subclasses where the claims are limited to the mounting of the breech block, even though a breech block lock is disclosed.

(2) Note. Guns in which a breech lock or retarding means is released by some means, after which the breech block is moved back by blow back, are classified on the type of the locking or retarding means claimed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

4.5, for explosion opened breech guns of the blow back type.

183, for inertia operated locks initiated by limited blow back of the breech block.

195 Pistol grip magazine:

This subclass is indented under subclass 194. Guns in the form of a piston with a magazine mounted in the grip thereof.

SEE OR SEARCH CLASS:

42, Firearms, subclass 7 for nonautomatic-grip magazine pistols.

196 Breech slide type:

This subclass is indented under subclass 195. Guns in which the breech block is rigidly connected to a member which extends forwardly adjacent the barrel and provides an abutment for the breech block return spring.

(1) Note. Usually the member surrounds the barrel and is an integral part of the breech block.

197 Box magazine:

This subclass is indented under subclass 194. Guns having a box magazine other than of piston grip type.

(1) Note. A box magazine is one that dispenses cartridges therefrom in side-by-side relation, as distinguished from a tubular magazine, for example.

(2) Note. The disclosure of a box magazine is sufficient to cause classification in this subclass rather than subclass 194.

SEE OR SEARCH THIS CLASS, SUBCLASS:

33.01 through 35.02, for cartridge holders for ordnance.

194, for blow back breech block, and see (2) Note.

195 through 196, for blow-back guns with pistol grip magazines.

SEE OR SEARCH CLASS:

42, Firearms, appropriate subclasses for box magazine features in nonautomatic guns, or in automatic guns where the automatic features are not claimed.

198 Buffers and brakes:

This subclass is indented under subclass 125. Guns provided with buffers and/or brakes, e.g., for the breech block, etc.

(1) Note. The buffer must involve something more than a rigid stop surface, and more than a breech block return spring.

SEE OR SEARCH THIS CLASS, SUBCLASS:

129.01 through 131, for devices other than buffers or brakes for regulating the rate of fire.

177, for buffers and brakes for movable barrels.

180 through 190, for means for retarding the initial opening movement only of the breech block.

199, for breech block stops and return springs.

SEE OR SEARCH CLASS:

188, Brakes, for pertinent subclass(es) as determined by schedule review.

267, Spring Devices, for pertinent subclass(es) as determined by schedule review.

199 Receiver closures and/or breech block return means:
This subclass is indented under subclass 125. Guns with particular receiver closures and/or breech-block return means.

(1) Note. The closure may provide an abutment for the breech-block return means, or a stop surface for the breech block.

(2) Note. The breech-block return means is usually a spring device, which also apposes the recoil motion of the breech block.

SEE OR SEARCH THIS CLASS, SUBCLASS:
178, for return means for movable barrels.

200 Straight-line light ray type:
This subclass is indented under subclass 41.19. Subject matter in which aiming is enhanced by utilizing nonrefracted light rays and direct sighting for determining the characteristics and the mutual relationships of points, lines, angles, for position or location of a target.

(1) Note. This subclass and the indented subclasses (201-206) are reclassified from the 33/235-240 area.

SEE OR SEARCH CLASS:
33, Geometrical Instruments, subclass 227 for straight-line ray type.
42, Firearms, subclass 111 for sight devices.

201 Accelerometer stabilized or factored:
This subclass is indented under subclass 200. Subject matter in which the aim is enhanced by a system including a device for measuring the force proportional to the velocity per second.

202 Gyroscopically stabilized:
This subclass is indented under subclass 200. Subject matter including a heavy, rapidly rotating disk in which a gimbal means maintains the equilibrium of the aiming enhancing structure with respect to a given reference plane.

SEE OR SEARCH CLASS:
33, Geometrical Instruments, subclass 230 for an aerial bomb sight including a gyroscope and subclass 318 for a gyroscopically controlled or stabilized direction indicator.
74, Machine Element or Mechanism, subclasses 5 through 5.9 for a gyroscope, per se, and especially subclass 5.22 for a gyroscope combined with other structure.
235, Registers, subclass 407 for gyroscopic means which provides electrical signals or mechanical movements to a computing device to compensate for weapon movement, e.g., tilt, roll, etc.

203 Self adjusting gun movement compensator:
This subclass is indented under subclass 200. Subject matter including means for establishing or maintaining a desired angular relation between the line of sight and the barrel axis of a moving gun, without manual adjustment of the sighting member.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, subclass 5.22 as the generic place for gyroscopes combined with other structures.
235, Registers, subclasses 404 through 407 for ordnance control calculators wherein the azimuth and elevation angles of the gun are determined in order to strike a given target.

204 Compensates for moving target:
This subclass is indented under subclass 203. Subject matter including means to correct for or offset the effect of a shifting mark to shoot at, relative to the gun.

205 And moving craft or gun platform:
This subclass is indented under subclass 204. Subject matter including means to correct for or offset the effects of motion of an aircraft, ship, tank, or other ordnance carrier.

206 Compensates for trunnion tilt:
This subclass is indented under subclass 203. Subject matter including means to correct for or offset the effects of a nonlevel condition of a

gun carriage or an unevenness of the ground upon which the gun carriage rests.

SEE OR SEARCH CLASS:

235, Registers, subclass 407 for means of providing electrical signals or mechanical movements to a computing device to compensate for trunnion tilt.

CROSS-REFERENCE ART COLLECTIONS

901 ARMOR (EPO):

Cross-reference art collection indented under the class definition including devices adapted to render protection to an ordance device or to the ordnance operating personnel.

(1) Note. The subject matter in this subclass is substantially the same in scope as ECLA (F41H5/00).

(2) Note. Included in this and indented subclasses are devices which also screen, cover, shroud, or cloak.

SEE OR SEARCH CLASS:

2, Apparel, subclass 2.5 for devices specially designed to resist penetration, as by projectiles, swords, knives, etc., where (1) features of shape for fitting the body or (2) means for wearing or otherwise securing the device to the body, are claimed.

105, Railway Rolling Stock, subclass 394 for railway cars, usually metallic, designed to be bullet-proof and provided with defensive means and protective devices for guarding against train robbery.

109, Safes, Bank Protection, or a Related Device, subclass 9, for guard booths; subclass 49.5 for shields and protectors, and subclasses 58-87, for enclosures and walls.

114, Ships, subclasses 9 through 15, for warships having armor.

152, Resilient Tires and Wheels, subclasses 167 through 207 for armored resilient tires.

244, Aeronautics and Astronautics, subclass 121 for shields and other protective devices which are an essential part of the aircraft structure.

428, Stock Material or Miscellaneous Articles, subclass 911 for penetrating resistant layer and cross-reference art collection 919 for camouflaged articles.

902 Reactive or dynamic armor (EPO):

Subject matter indented under cross-reference art collection 901 including an armor device which senses a threat and actively responds to block, destroy, disable, divert or intercept the threat either prior to or during impact.

(1) Note. The subject matter in this subclass is substantially the same in scope as ECLA (F41H5/007).

903 Plate construction (EPO):

Subject matter indented under cross-reference art collection 901 including an armor device wherein the particular structural makeup or the particular material out of which the armor is made is specified and is of particular significance.

(1) Note. The subject matter in this subclass is substantially the same in scope as ECLA (F41H5/02).

SEE OR SEARCH CLASS:

109, Safes, Bank Protection, or Related Device subclasses 58 through 87 for enclosure and wall structure.

904 Composed of more than one layer (EPO):

Subject matter under cross-reference art collection 903 including an armor device wherein the structure of the armor comprises two or more thicknesses, courses or folds laid over one another.

(1) Note. The subject matter in this subclass is substantially the same in scope as ECLA (F41H5/04).

SEE OR SEARCH CLASS:

114, Ships, subclass 12 for plating on warships composed of more than one layer.

428, Stock Material or Miscellaneous Articles, subclass 911 for stock material having a penetration resistant layer.

905 Transparent bullet-proof laminate (EPO):
Subject matter under cross-reference art collection 904 including an armor device comprising united superimposed layers of a material, each of which have the property of transmitting light without appreciable scattering so that the bodies lying beyond are entirely visible, at least one of the layers being resistant to penetration from a round or elongated missile designed to be fired from a firearm.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04B).

SEE OR SEARCH CLASS:
428, Stock Material or Miscellaneous Articles, subclasses 426+ for transparent laminates, per se.

906 Layered armor containing ceramic material (EPO):
Subject matter under cross-reference art collection 904 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds containing clay.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04C).

907 Ceramic layer in combination with metal layer (EPO):
Subject matter under cross-reference art collection 906 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds containing clay and at least a second thickness, course, or folds contains a material having a continuous phase of any element of the periodic table except hydrogen, a noble gas, a halogen, a chalcogen (oxygen, sulfur, selenium, tellurium), nitrogen, phosphorus, carbon and boron.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04C2).

(2) Note. Elemental silicon is considered to be a metal, but a silicon compound is not considered to be a metal compound on the basis of silicon content.

908 Ceramic layer in combination with additional layer made of fiber, fabric, or plastic (EPO):
Subject matter under cross-reference art collection 906 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds containing clay and at least a second thickness, course, or fold contains either (1) a slender and elongated natural or synthetic filament (as of wool, cotton, asbestos, gold, glass, or rayon) capable of being spun into yarn (2) cloth or a material that resembles cloth, or (3) organic, synthetic or processed material that is molded, cast, extruded, or drawn into objects, films or filaments.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04C4).

909 Additional layers being only fiber or fabric reinforced (EPO):
Subject matter under cross-reference art collection 908 including an armor device comprising two or more thicknesses, courses or folds laid over one another, one of the thicknesses, courses, or folds containing clay and all the other thicknesses, courses, or folds contain either (1) a slender and elongated natural or synthetic filament (as of wool, cotton, asbestos, gold, glass, or rayon) capable of being spun into yarn or (2) cloth or a material that resembles cloth as the sole source of strengthening.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04C4B).

910 Layer armor containing metal (EPO):
Subject matter under cross-reference art collection 904 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds containing a material having a continuous phase of any element of the periodic table except hydrogen, a noble gas, a halogen, a chalcogen (oxygen, sulfur, selenium, tellurium), nitrogen, phosphorus, carbon and boron.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04D).

SEE OR SEARCH THIS CLASS, SUBCLASS:

907, for layered armor having metallic layers in combination with ceramic layers.

911 All layers containing metal (EPO):

Subject matter under cross-reference art collection 910 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds, each and every thickness, course or fold containing a material having a continuous phase of any element of the periodic table except hydrogen, a noble gas, a halogen, a chalcogen (oxygen, sulfur, selenium, tellurium), nitrogen, phosphorus, carbon and boron.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04D2).

SEE OR SEARCH CLASS:

428, Stock Material or Miscellaneous Articles, subclasses 426+ for stock material having least two different, contiguous layers or portions, each having a matrix or continuous phase of free metal.

912 Metal layer in combination with additional layer made of fiber, fabric or plastic (EPO):

Subject matter under cross-reference art collection 910 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds containing a material having a continuous phase of any element of the periodic table except hydrogen, a noble gas, a halogen, a chalcogen (oxygen, sulfur, selenium, tellurium), nitrogen, phosphorus, carbon and boron and at least a second thickness, course, or fold contains (1) a slender and elongated natural or synthetic filament (as of wool, cotton, asbestos, gold, glass, or rayon) capable of being spun into yarn (2) cloth or a material that resembles cloth, or (3) organic, synthetic or processed material that is molded, cast, extruded, or drawn into objects, films or filaments.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04D4).

913 Additional layers being only fiber or fabric reinforced (EPO):

Subject matter under cross-reference art collection 912 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds containing a material having a continuous phase of any element of the periodic table except hydrogen, a noble gas, a halogen, a chalcogen (oxygen, sulfur, selenium, tellurium), nitrogen, phosphorus, carbon and boron and all other thicknesses, courses, or folds contain either (1) a slender and elongated natural or synthetic filament (as of wool, cotton, asbestos, gold, glass, or rayon) capable of being spun into yarn or (2) cloth or a material that resembles cloth as the sole source of strengthening.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04D4B).

914 Layered armor containing fiber or fabric reinforced layer (EPO):

Subject matter under cross-reference art collection 904 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds containing either (1) a slender and elongated natural or synthetic filament (as of wool, cotton, asbestos, gold, glass, or rayon) capable of being spun into yarn or (2) cloth or a material that resembles cloth.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04F).

SEE OR SEARCH THIS CLASS, SUBCLASS:

908, for armor containing a fiber or fabric reinforced layer in combination with a ceramic layer.

912, for armor containing a fiber or fabric reinforced layer in combination with a ceramic layer.

915 Fiber or fabric reinforced layer in combination with plastic layer (EPO):
Subject matter under cross-reference art collection 914 including an armor device comprising two or more thicknesses, courses or folds laid over one another, at least one of the thicknesses, courses, or folds containing either (1) a slender and elongated natural or synthetic filament (as of wool, cotton, asbestos, gold, glass, or rayon) capable of being spun into yarn or (2) cloth or a material that resembles cloth, and at least a second thickness, course, or fold contains organic, synthetic or processed material that is molded, cast, extruded, or drawn into objects, films or filaments.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04F2).

916 All layers being only fiber or fabric reinforced (EPO):
Subject matter under cross-reference art collection 914 including an armor device comprising two or more thicknesses, courses or folds laid over one another, each and every one of the thicknesses, courses, or folds containing either (1) a slender and elongated natural or synthetic filament (as of wool, cotton, asbestos, gold, glass, or rayon) capable of being spun into yarn or (2) cloth or a material that resembles cloth as the sole source of strengthening.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04F4).

917 Armor containing hard elements (e.g., plates, spheres, rods), separated from each other, the elements being connected to a further flexible layer or being embedded in a plastic or an elastomeric matrix (EPO):
Subject matter under cross-reference art collection 903 including an armor device comprising a number of discreet constituent parts which are not easily penetrated and which are interconnected by means of (1) attachment to a material which capable of being bent or (2) enclosed in a supporting material of rubber or a rubber-like substance or an organic, synthetic or processed substance material that is molded, cast, or extruded.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/04G).

918 Shields (EPO):
Subject matter under cross-reference art collection 901 including an armored screen adapted to render protection to an ordnance device or to the ordnance operating personnel.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/06).

SEE OR SEARCH CLASS:
114, Ships, subclass 14 for screens or shields on warships.

919 Rotating shield (EPO):
Subject matter under cross-reference art collection 918 including an armored screen which revolves about an axis.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/18).

920 For stationary use (e.g., fortification, shelters, guard booths) (EPO):
Subject matter under cross-reference art collection 918 including an armored screen which is installed on a non-moveable structure, e.g., hanger, building, etc.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/24).

SEE OR SEARCH CLASS:
109, Safes, Banks Protection or a Related Device, for banks, stores, or other related institutions, having means to protect or defend them and their personnel against a burglary or robbery attack, specifically subclass 9 for guard booths, subclass 49.5 for shields and protectors, and subclasses 58-87 for enclosures and walls.

921 Personal protection gear (EPO):
Subject matter under cross-reference art collection 918 including an armored screen which is

specifically adapted to shield the human body from injury or death.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H1/00).

SEE OR SEARCH CLASS:
109, Safes, Banks Protection or a Related Device, subclass 49.5 for banks, stores, or other related institutions, having means to protect personnel against a burglary or robbery attack.

922 Armored, projectile or missile resistant garment (EPO):
Subject matter under cross-reference art collection 921 including an armored screen which is specifically adapted to fit the human body, e.g., jackets, helmets, shoes, etc.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H1/02).

SEE OR SEARCH CLASS:
2, Apparel, subclass 2.5 for articles of clothing specially designed to resist penetration, as by projectiles, swords, knives, etc., where (1) features of shape for fitting the body or (2) means for wearing or otherwise securing the device to the body, are claimed.

923 Protection helmet (EPO):
Subject matter under cross-reference art collection 922 including an armored screen which is specifically adapted to be worn on and shield the head.

(1) Note: The subject matter of this subclass is substantially the same in scope as ECLA (F41H1/04).

SEE OR SEARCH CLASS:
2, Apparel, subclass 6.6 for soldier's helmets and subclasses 410+ for a device wherein significance is attributed to means in or on a head covering or helmet that is intended to protect the head of a wearer, or at least a portion of the head.

924 Steel helmet or head shield (EPO):
Subject matter under cross-reference art collection 923 including a protection helmet which is composed of a commercial iron that contains carbon in any amount up to about 1.7 percent as an essential alloying constituent and is malleable when under suitable conditions.

(1) Note. Steel is distinguished from cast iron by its malleability and lower carbon content.

(2) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H1/06).

925 Plastic helmet or head shield (EPO):
Subject matter under cross-reference art collection 923 including a protection helmet which is composed of organic, synthetic or processed material that is molded, cast, extruded, or drawn into objects, films or filaments.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H1/08).

926 For personal use (i.e., hand held shield) (EPO):
Subject matter under cross-reference art collection 921 including an armored shield which is moved into a protection position by the arms or hands of the user.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/08).

927 Spade bayonet (i.e., useable as a spade, bayonet or cover against rifle fire) (EPO):
Subject matter under cross-reference art collection 926 including an armored shield which can be alternately used as (1) a digging implement, (2) a blade made to be attached at the muzzle end of a shoulder arm and used in hand-to-hand combat (3) or as a personal shield against incoming projectiles.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/10).

928 For small arms or light rocket launcher (EPO):
Subject matter under cross reference art collection 918 including an armored shield adapted to be installed on a weapon which may be carried by an individual operator.

(1) Note. A small arm is a firearm of small caliber or (mm), including pistols, rifles, machine guns and shot guns. The maximum caliber or (mm) may vary up to and include 30 caliber.

(2) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/12).

929 Wheeled armored shield (EPO):
Subject matter under cross-reference art collection 918 including an armored shield wherein the ordnance protector is provided with wheels for mobility in order to move it to a desired location.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/14).

930 For cannon, artillery or tank (EPO):
Subject matter under cross-reference art collection 918 including an armored shield which provides protection to a large caliber, crew served firearm (e.g., guns howitzers, rockets) or to an enclosed heavily armed combat vehicle supported, driven, and steered by caterpillar treads.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/16).

931 Manhole cover (e.g., on tanks) (EPO):
Subject matter under cross-reference art collection 930 including an armored shield protecting a hole through which a man may gain access to an underground or enclosed structure.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/22).

935 Turret (EPO):
Subject matter under cross-reference art collection 918 including an armored shield comprising a dome-shaped or cylindrical structure having observations slits or gun ports and mounted on a fixed or mobile structure, e.g., tank, armored vehicle, building aircraft, etc.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/20).

936 Peephole, window, loophole, observation or reconnaissance equipment on armored vehicles (e.g., cameras and covers therefore) (EPO):
Subject matter under cross-reference art collection 901 including a small opening located on an armored conveyance through which small fire arms may be discharged or other openings or devices located on an armor protected mode of conveyance which allow for seeing outside that conveyance or to otherwise conduct an exploratory military survey of enemy territory.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/26).

937 Mounting or securing armor plate (EPO):
Subject matter under cross-reference art collection 901 including devices comprising structure for supporting or fastening armor in place.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H5/013).

SEE OR SEARCH THIS CLASS, SUBCLASS:
37.01, and the search notes thereunder for mounts for other ordnance-type devices.

938 Camouflage (i.e., means for or method of concealment or disguise) (EPO):
Subject matter under cross-reference art collection 901 including devices which screen, cover, shroud, or cloak in order to prevent disclosure or recognition.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H3/00).

SEE OR SEARCH CLASS:
114, Ships, subclass 15 for concealment on warships.

939 Flexible (e.g., fabric) cover (e.g., screen, net) (EPO):

Subject matter under cross-reference art collection 938 including camouflage devices which are capable of being bent repeatedly and are meant to overlay the object to be hidden.

(1) Note. The subject matter of this subclass is substantially the same in scope as ECLA (F41H3/02).

END