

CPC COOPERATIVE PATENT CLASSIFICATION

F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING (NOTE omitted)

WEAPONS; BLASTING

F41 WEAPONS (NOTES omitted)

F41H ARMOUR; ARMoured TURRETS; ARMoured OR ARMED VEHICLES; MEANS OF ATTACK OR DEFENCE, e.g. CAMOUFLAGE, IN GENERAL

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00	Personal protection gear (shields for personal use F41H 5/08 ; {footwear for use in minefields A43B 3/0026 }; for protection against chemical warfare A62B)	5/0407	. . . {Transparent bullet-proof laminates} {informative reference: layered products essentially comprising glass in general B32B 17/06 , e.g. B32B 17/10009 ; manufacture or composition of glass, e.g. joining glass to glass C03 ; permanent multiple-glazing windows, e.g. with spacing therebetween, E06B 3/66 }
1/02	. Armoured or projectile- or missile-resistant garments; Composite protection fabrics { F41H 5/04 takes precedence}		
1/04	. Protection helmets (crash helmets A42B 3/00)		
1/06	. . of steel; Steel head-shields	5/0414	. . . {Layered armour containing ceramic material}
1/08	. . of plastics; Plastic head-shields	5/0421	. . . . {Ceramic layers in combination with metal layers}
3/00	Camouflage, i.e. means or methods for concealment or disguise (for vessels B63G 8/34 , B63G 13/02 {; sound camouflage, i.e. simulating gun fire noise, F41A 33/04 ; dummy or decoy targets F41J ; chaff <i>per se</i> F41J 2/00 ; ammunition for dispensing chaff F42B 5/15 , F42B 12/70 ; radar absorbing fabrics H01Q 17/005)	5/0428	. . . . {Ceramic layers in combination with additional layers made of fibres, fabrics or plastics}
3/02	. {Flexible, e.g. fabric} covers, e.g. screens, nets {characterised by their material or structure} (making thereof, <i>see</i> the relevant classes, e.g. D04)	5/0435	. . . . . {the additional layers being only fibre- or fabric-reinforced layers}
5/00	Armour; Armour plates (processes for manufacturing or treating B21 , C21 , {heat treatment C21D 9/42 ; wall or panel structure for safes E05G 1/024 })	5/0442	. . . . {Layered armour containing metal (in combination with ceramic layers F41H 5/0421 ; heat treatment of armour plate C21D 9/42)}
5/007	. Reactive armour; Dynamic armour	5/045	. . . . . {all the layers being metal layers}
5/013	. Mounting or securing armour plates	5/0457	. . . . . {Metal layers in combination with additional layers made of fibres, fabrics or plastics}
5/02	. Plate construction	5/0464	. . . . . {the additional layers being only fibre- or fabric-reinforced layers}
5/023	. . {Armour plate, or auxiliary armour plate mounted at a distance of the main armour plate, having cavities at its outer impact surface, or holes, for deflecting the projectile}	5/0471	. . . . {Layered armour containing fibre- or fabric-reinforced layers (in combination with ceramic layers F41H 5/0428 , with metal layers F41H 5/0457)}
5/026	. . . {Slat armour; Nets}	5/0478	. . . . . {Fibre- or fabric-reinforced layers in combination with plastics layers}
5/04	. . composed of more than one layer {(outerwear resistant to mechanical aggressions A41D 31/24 ; layered products B32B ; shaping reinforced articles B29C 67/00)}	5/0485	. . . . . {all the layers being only fibre- or fabric-reinforced layers}
		5/0492	. . . . {Layered armour 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 plastics or an elastomer matrix}
		5/06	. Shields (in ships B63G 9/00 ; in aircraft B64D 7/00 {; blasting mats F42D 5/05 })
		5/08	. . for personal use {, i.e. hand held shields}
		5/10	. . . Spade bayonets, i.e. usable as a spade, bayonet or cover against rifle fire {(not used; <i>see</i> F41C 27/04)}

- 5/12 . . for smallarms; for light-rocket launchers [{\(shields attached to smallarms F41C 27/04\)}](#)
- 5/14 . . . Wheeled armoured shields
- 5/16 . . for ordnance [{or tanks \(F41H 5/18 takes precedence\)}](#)
- 5/18 . . Rotating shields
- 5/20 . Turrets [{\(on vehicles F41H 7/04\)}](#)
- 5/22 . Manhole covers, e.g. on tanks; [{Doors on armoured vehicles or structures}](#)
- 5/223 . . [{Manhole covers specially adapted for armoured or fighting vehicles}](#)
- 5/226 . . [{Doors on armoured vehicles or structures \(F41H 5/263 takes precedence\)}](#)
- 5/24 . for stationary use, e.g. fortifications [{; Shelters; Guard Booths \(air-raid shelters E04H 9/04\)}](#)
- 5/26 . Peepholes; Windows; [{Loopholes}](#)[\(manufacture or composition of glass C03; Covers therefor {informative reference: transparent bullet-proof laminates F41H 5/0407; layered products essentially comprising glass B32B 17/06}\)](#)
- 5/263 . . [{Mounting of transparent armoured panels, e.g. bulletproof windows on vehicles}](#)
- 5/266 . . [{Periscopes for fighting or armoured vehicles}](#)
- 7/00** **Armoured or armed vehicles** [\(general vehicle aspects B60; armoured or armed ships B63G; armoured or armed aircraft B64D; mounting guns, e.g. machine guns, on vehicles F41A 23/00\)](#)
- 7/005 . [{Unmanned ground vehicles, i.e. robotic, remote controlled or autonomous, mobile platforms carrying equipment for performing a military or police role, e.g. weapon systems or reconnaissance sensors \(F41H 11/16 takes precedence\)}](#)
- 7/02 . Land vehicles with enclosing armour, e.g. tanks [\(endless-track vehicles, steering thereof B62D {; vehicles for placing portable or sectional bridges E01D 15/127; vehicles carrying floating bridges E01D 15/22}\)](#)
- 7/03 . . Air-pressurised compartments for crew; Means for preventing admission of noxious substances, e.g. combustion gas from gun barrels, in crew compartments; Sealing arrangements
- 7/035 . . . [{Gratings for ventilation openings}](#)
- 7/04 . . Armour construction [\(in general F41H 5/00\)](#)
- 7/042 . . . [{Floors or base plates for increased land mine protection}](#)
- 7/044 . . . [{Hull or cab construction other than floors or base plates for increased land mine protection \(mounting of armoured plates F41H 5/013\)}](#)
- 7/046 . . . [{Shock resilient mounted seats for armoured or fighting vehicles}](#)
- 7/048 . . . [{Vehicles having separate armoured compartments, e.g. modular armoured vehicles}](#)
- 7/10 . Minelaying land vehicles
- 9/00** **Equipment for attack or defence by spreading flame, gas or smoke [\(or leurrees\)](#); Chemical warfare equipment** [\(protection against chemicals A62B\)](#)
- 9/02 . Flame-throwing apparatus [\(for destroying vegetation A01M 15/00\)](#)
- 9/04 . Gas-blowing apparatus, e.g. for tear gas [\(F41H 9/10 takes precedence\)](#)
- 9/06 . Apparatus for generating artificial fog or smoke screens [\({for producing special effects on stages A63J 5/00}; smoke-pot projectors, e.g. arranged on vehicles, F42B 5/155\)](#)
- 9/08 . . Smoke-pots without propulsive charge, i.e. stationary
- 9/10 . Hand-held or body-worn self-defence devices using repellent gases or chemicals
- 11/00** **Defence installations; Defence devices** [\(constructional aspects see Section E, e.g. {air-raid shelters} E04H 9/04; {protective arrangements for buildings E04B 1/92; extinguishing or preventing the spread of fire from, incendiary bombs A62C 3/06; dynamic armour F41H 5/007; ballistically deployed systems for restraining persons or animals F41H 13/0006; electronic countermeasures G01S}\)](#)
- 11/02 . Anti-aircraft or anti-guided missile [{or anti-torpedo}](#) defence installations or systems [\(cartridges or missiles for producing smoke or for dispensing radar chaff or infrared material F42B 5/15, F42B 12/48, F42B 12/70; {informative reference: details of radar or sonar systems G01S 7/00; jamming or electronic countermeasures G01S 7/38, G01S 7/495, H04K 3/00}\)](#)
- 11/04 . . Aerial barrages
- 11/05 . Net barriers for harbour defence [{\(arrangement of mines F42B 22/24; protective nets used with ships B63G 9/04\)}](#)
- 11/06 . Guntraps [{\(devices specially adapted for the protection against criminal attack in airplanes B64D 45/0015; burglar traps or the like, on safes E05G 5/02; identifying, scaring or incapacitating burglars, thieves, or intruders G08B 15/00\)}](#)
- 11/08 . Barbed-wire obstacles; Barricades; Stanchions; Tank traps; Vehicle-impeding devices; Caltrops [{\(making barbed wire B21F 25/00; barbed-wire fencing E04H 17/04; road barricades, obstructing passage of vehicles or pedestrians E01F 13/00\)}](#)
- 11/10 . . Dispensing-apparatus therefor, e.g. devices for dispensing or reeling barbed wire
- 11/11 . . Clearing or neutralising barbed wire obstacles [\({devices mounted on vehicles for cutting wire-type obstructions B60R 19/545}; smallarm attachments for wire cutting F41C 27/20\)](#)
- 11/12 . Means for clearing land minefields; Systems specially adapted for detection of landmines
- 11/13 . . Systems specially adapted for detection of landmines
- 11/132 . . . Biological systems, e.g. with detection by animals or plants
- 11/134 . . . Chemical systems, e.g. with detection by vapour analysis
- 11/136 . . . Magnetic, electromagnetic, acoustic or radiation systems, e.g. ground penetrating radars or metal-detectors
- 11/138 . . . Mechanical systems, e.g. prodding sticks for manual detection
- 11/14 . . Explosive line charges, e.g. snakes
- 11/16 . . Self-propelled mine-clearing vehicles; Mine-clearing devices attachable to vehicles
- 11/18 . . . with ground-impacting means for activating mines by the use of mechanical impulses, e.g. flails or stamping elements

F41H

- 11/20 . . . with ground-penetrating elements, e.g. with means for removing buried landmines from the soil ([F41H 11/18](#) takes precedence)
- 11/22 the elements being excavation buckets
- 11/24 the elements being ploughs
- 11/26 the elements being rotary ground-penetrating elements
- 11/28 . . . using brushing or sweeping means or dozers to push mines lying on a surface aside; using means for removing mines intact from a surface
- 11/30 . . . with rollers creating a surface load on the ground, e.g. steadily increasing surface load, for triggering purposes
- 11/32 . . . Decoy or sacrificial vehicles; Decoy or sacrificial devices attachable to vehicles

13/00 Means of attack or defence not otherwise provided for [{\(details of radar or sonar systems G01S 7/00\)}](#)

- 13/0006 . {Ballistically deployed systems for restraining persons or animals, e.g. ballistically deployed nets}
- 13/0012 . {Electrical discharge weapons, e.g. for stunning}
- 13/0018 . . {for nearby electrical discharge, i.e. the electrodes being positioned on the device and the device brought manually or otherwise into contact with a nearby target ([batons with electric discharge capability F41B 15/04](#); [electric shock devices for animals A01K 15/02](#))}
- 13/0025 . . {for remote electrical discharge via conducting wires, e.g. via wire-tethered electrodes shot at a target}
- 13/0031 . . {for remote electrical discharge by means of a wireless projectile}
- 13/0037 . . {for remote electrical discharge via liquid jets ([details of the gun for generating the liquid jets F41B 9/00](#))}
- 13/0043 . {Directed energy weapons, i.e. devices that direct a beam of high energy content toward a target for incapacitating or destroying the target}
- 13/005 . . {the high-energy beam being a laser beam}
- 13/0056 . . . {for blinding or dazzling, i.e. by overstimulating the opponent's eyes or the enemy's sensor equipment}
- 13/0062 . . . {causing structural damage to the target}
- 13/0068 . . {the high-energy beam being of microwave type, e.g. for causing a heating effect in the target}
- 13/0075 . . {the high-energy beam being a radiofrequency beam}
- 13/0081 . . {the high-energy beam being acoustic, e.g. sonic, infrasonic or ultrasonic}
- 13/0087 . . {the high-energy beam being a bright light, e.g. for dazzling or blinding purposes ([F41H 13/0056](#) takes precedence)}
- 13/0093 . {Devices generating an electromagnetic pulse, e.g. for disrupting or destroying electronic devices}