

**CPC****COOPERATIVE PATENT CLASSIFICATION****F41H**

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

**F41H 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](#))

**F41H 1/02**

- . Armoured or projectile- or missile-resistant garments; Composite protection fabrics {(F41H 5/04 takes precedence)}

**F41H 1/04**

- . Protection helmets (crash helmets [A42B 3/00](#))

**F41H 1/06**

- .. of steel; Steel head-shields

**F41H 1/08**

- .. of plastics; Plastic head-shields

**F41H 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 per se [F41J 2/00](#); ammunition for dispensing chaff [F42B 5/15](#), [F42B 12/70](#); radar absorbing fabrics [H01Q 17/005](#) })

**F41H 3/02**

- . { Flexible, e.g. fabric } covers, e.g. screens, nets { characterised by their material or structure } (making thereof, see the relevant classes, e.g. [D04](#))

**F41H 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](#) })

**F41H 5/007**

- . Reactive armour; Dynamic armour

**F41H 5/013**

- . Mounting or securing armour plates

**F41H 5/02**

- . Plate construction

**F41H 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 }

**F41H 5/026**

- ... { Slat armour; Nets }

**F41H 5/04**

- .. composed of more than one layer {(outerwear resistant to mechanical aggressions [A41D 31/0055](#); layered products [B32B](#); shaping reinforced articles [B29C 67/00](#))}

**F41H 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](#) }

**F41H 5/0414**

- ... { Layered armour containing ceramic material }

**F41H 5/0421**

- .... { Ceramic layers in combination with metal layers }

**F41H 5/0428**

- .... { Ceramic layers in combination with additional layers made of fibres, fabrics or plastics }

F41H 5/0435	.....	{ the additional layers being only fibre- or fabric-reinforced layers }
F41H 5/0442	...	{ Layered armour containing metal (in combination with ceramic layers <a href="#">F41H 5/0421</a> ; heat treatment of armour plate <a href="#">C21D 9/42</a> ) }
F41H 5/045	....	{ all the layers being metal layers }
F41H 5/0457	....	{ Metal layers in combination with additional layers made of fibres, fabrics or plastics }
F41H 5/0464	.....	{ the additional layers being only fibre- or fabric-reinforced layers }
F41H 5/0471	...	{ Layered armour containing fibre- or fabric-reinforced layers (in combination with ceramic layers <a href="#">F41H 5/0428</a> , with metal layers <a href="#">F41H 5/0457</a> ) }
F41H 5/0478	....	{ Fibre- or fabric-reinforced layers in combination with plastics layers }
F41H 5/0485	....	{ all the layers being only fibre- or fabric-reinforced layers }
F41H 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 }
F41H 5/06	.	Shields (in ships <a href="#">B63G 9/00</a> ; in aircraft <a href="#">B64D 7/00</a> ) { blasting mats <a href="#">F42D 5/05</a> }
F41H 5/08	..	for personal use, { i.e. hand held shields }
F41H 5/10	...	Spade bayonets, i.e. usable as a spade, bayonet or cover against rifle fire {(not used; see <a href="#">F41C 27/04</a> ) }
F41H 5/12	..	for smallarms; for light-rocket launchers {(shields attached to smallarms <a href="#">F41C 27/04</a> ) }
F41H 5/14	...	Wheeled armoured shields
F41H 5/16	..	for ordnance { or tanks ( <a href="#">F41H 5/18</a> takes precedence) }
F41H 5/18	..	Rotating shields
F41H 5/20	.	Turrets {(on vehicles <a href="#">F41H 7/04</a> ) }
F41H 5/22	.	Manhole covers, e.g. on tanks; { Doors on armoured vehicles or structures }
F41H 5/223	..	{ Manhole covers specially adapted for armoured or fighting vehicles }
F41H 5/226	..	{ Doors on armoured vehicles or structures ( <a href="#">F41H 5/263</a> takes precedence) }
F41H 5/24	.	for stationary use, e.g. fortifications { Shelters, Guard Booths (air-raid shelters <a href="#">E04H 9/04</a> ) }
F41H 5/26	.	Peepholes; Windows; { Loopholes } (manufacture or composition of glass <a href="#">C03</a> ; Covers therefor) { informative reference: transparent bullet-proof laminates <a href="#">F41H 5/04B</a> ; layered products essentially comprising glass <a href="#">B32B 17/06</a> }
F41H 5/263	..	{ Mounting of transparent armoured panels, e.g. bulletproof windows on vehicles }
F41H 5/266	..	{ Periscopes for fighting or armoured vehicles }
<b>F41H 7/00</b>		<b>Armoured or armed vehicles</b> (general vehicle aspects <a href="#">B60</a> ; armoured or armed ships <a href="#">B63G</a> ; armoured or armed aircraft <a href="#">B64D</a> ; mounting guns, e.g. machine guns, on vehicles <a href="#">F41A 23/00</a> )

- F41H 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)}
- F41H 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](#) })
- F41H 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
- F41H 7/035
  - ... { [Gratings for ventilation openings](#) }
- F41H 7/04
  - .. Armour construction ([in general F41H 5/00](#))
- F41H 7/042
  - ... { [Floors or base plates for increased land mine protection](#) }
- F41H 7/044
  - ... { [Hull or cab construction other than floors or base plates for increased land mine protection](#) ([mounting of armoured plates F41H 5/013](#))}
- F41H 7/046
  - ... { [Shock resilient mounted seats for armoured or fighting vehicles](#) }
- F41H 7/048
  - ... { [Vehicles having separate armoured compartments, e.g. modular armoured vehicles](#) }
- F41H 7/10
  - . Minelaying land vehicles
- F41H 9/00**

**Equipment for attack or defence by spreading flame, gas or smoke { or leurrees }; Chemical warfare equipment** ([protection against chemicals A62B](#))
- F41H 9/02
  - . Flame-throwing apparatus ([for destroying vegetation A01M 15/00](#))
- F41H 9/04
  - . Gas-blowing apparatus, e.g. for tear gas ([F41H 9/10](#) takes precedence)
- F41H 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](#))
- F41H 9/08
  - .. Smoke-pots without propulsive charge, i.e. stationary
- F41H 9/10
  - . Hand-held or body-worn self-defence devices using repellant gases or chemicals
- F41H 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](#) })
- F41H 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 infra-red 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](#) })
- F41H 11/04
  - .. Aerial barrages

- F41H 11/05 . Net barriers for harbour defence {(arrangement of mines [F42B 22/24](#); protective nets used with ships [B63G 9/04](#))}
- F41H 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](#))}
- F41H 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](#))}
- F41H 11/10 .. Dispensing-apparatus therefor, e.g. devices for dispensing or reeling barbed wire
- F41H 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](#))
- F41H 11/12 . Means for clearing land minefields; Systems specially adapted for detection of landmines
- F41H 11/13 .. Systems specially adapted for detection of landmines
- F41H 11/132 ... Biological systems, e.g. with detection by animals or plants
- F41H 11/134 ... Chemical systems, e.g. with detection by vapour analysis
- F41H 11/136 ... Magnetic, electromagnetic, acoustic or radiation systems, e.g. ground penetrating radars or metal-detectors
- F41H 11/138 ... Mechanical systems, e.g. prodding sticks for manual detection
- F41H 11/14 .. Explosive line charges, e.g. snakes
- F41H 11/16 .. Self-propelled mine-clearing vehicles; Mine-clearing devices attachable to vehicles
- F41H 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)
- F41H 11/22 .... the elements being excavation buckets
- F41H 11/24 .... the elements being ploughs
- F41H 11/26 .... the elements being rotary ground-penetrating elements
- F41H 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
- F41H 11/30 ... with rollers creating a surface load on the ground, e.g. steadily increasing surface load, for triggering purposes
- F41H 11/32 ... Decoy or sacrificial vehicles; Decoy or sacrificial devices attachable to vehicles
- F41H 13/00 Means of attack or defence not otherwise provided for {(details of radar or sonar systems [G01S 7/00](#))}**
- F41H 13/0006 . { Ballistically deployed systems for restraining persons or animals, e.g. ballistically deployed nets }
- F41H 13/0012 . { Electrical discharge weapons, e.g. for stunning, such as tasers }

- F41H 13/0018      . .      N: 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](#)]
- F41H 13/0025      . .      { for remote electrical discharge via conducting wires, e.g. via wire-tethered electrodes shot at a target }
- F41H 13/0031      . .      { for remote electrical discharge by means of a wireless projectile }
- F41H 13/0037      . .      { for remote electrical discharge via liquid jets (details of the gun for generating the liquid jets [F41B 9/00](#))}
- F41H 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 }
- F41H 13/005      . .      { the high-energy beam being a laser beam }
- F41H 13/0056      . . .      { for blinding or dazzling, i.e. by overstimulating the opponent's eyes or the enemy's sensor equipment }
- F41H 13/0062      . . .      { causing structural damage to the target }
- F41H 13/0068      . .      { the high-energy beam being of microwave type, e.g. for causing a heating effect in the target }
- F41H 13/0075      . .      { the high-energy beam being a radiofrequency beam }
- F41H 13/0081      . .      { the high-energy beam being acoustic, e.g. sonic, infrasonic or ultrasonic }
- F41H 13/0087      . .      { the high-energy beam being a bright light, e.g. for dazzling or blinding purposes ([F41H 13/0056](#) takes precedence)}
- F41H 13/0093      .      { Devices generating an electromagnetic pulse, e.g. for disrupting or destroying electronic devices }