

**CPC****COOPERATIVE PATENT CLASSIFICATION****F41H****ARMOUR; ARMoured TURRETS; ARMoured OR ARMED VEHICLES; MEANS OF ATTACK OR DEFENCE, e.g. CAMOUFLAGE, IN GENERAL****Guidance heading:****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 [F41H 5/0421](#); heat treatment of armour plate [C21D 9/42](#)) }
- 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 [F41H 5/0428](#), with metal layers [F41H 5/0457](#)) }
- 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 [B63G 9/00](#); in aircraft [B64D 7/00](#)) {blasting mats [F42D 5/05](#) }
- 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 [F41C 27/04](#)) }
- F41H 5/12 . . for smallarms; for light-rocket launchers { (shields attached to smallarms [F41C 27/04](#)) }
- F41H 5/14 . . . Wheeled armoured shields
- F41H 5/16 . . for ordnance {or tanks ([F41H 5/18](#) takes precedence) }
- F41H 5/18 . . Rotating shields
  
- F41H 5/20 . Turrets { (on vehicles [F41H 7/04](#)) }
  
- 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 ([F41H 5/263](#) takes precedence) }
  
- F41H 5/24 . for stationary use, e.g. fortifications {Shelters, Guard Booths (air-raid shelters [E04H 9/04](#)) }
  
- F41H 5/26 . Peepholes; Windows; { Loopholes } (manufacture or composition of glass [C03](#) ; Covers therefor) { informative reference: transparent bullet-proof laminates [F41H 5/04B](#); layered products essentially comprising glass [B32B 17/06](#) }
- F41H 5/263 . . { Mounting of transparent armoured panels, e.g. bulletproof windows on vehicles }
- F41H 5/266 . . { Periscopes for fighting or armoured vehicles }
  
- F41H 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](#))
  
- 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 leurrez };**  
**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 11/161    ...    {with ground impacting means, e.g. flails or stamping elements }
- F41H 11/162    ...    {with ground penetrating elements ([F41H 11/161](#) takes precedence) }
- F41H 11/164    ....    {the elements being ploughs }
- F41H 11/165    ....    {the elements being rotary ground penetrating elements }
- F41H 11/167    ...    {with surface dosering, brushing or sweeping means or with collecting means }
- F41H 11/168    ...    {with rollers }
- 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 }