

**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 [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 5/0407](#); 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 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; Caltraps {(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}