

# 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  | <b>Personal protection gear</b> (shields for personal use <a href="#">F41H 5/08</a> ; {footwear for use in minefields <a href="#">A43B 3/0026</a> }; for protection against chemical warfare <a href="#">A62B</a> )                                                                                                                                                                                                                                                      | 5/0407 | . . . {Transparent bullet-proof laminates} {informative reference: layered products essentially comprising glass in general <a href="#">B32B 17/06</a> , e.g. <a href="#">B32B 17/10009</a> ; manufacture or composition of glass, e.g. joining glass to glass <a href="#">C03</a> ; permanent multiple-glazing windows, e.g. with spacing therebetween, <a href="#">E06B 3/66</a> } |
| 1/02  | . Armoured or projectile- or missile-resistant garments; Composite protection fabrics {( <a href="#">F41H 5/04</a> takes precedence)}                                                                                                                                                                                                                                                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                      |
| 1/04  | . Protection helmets (crash helmets <a href="#">A42B 3/00</a> )                                                                                                                                                                                                                                                                                                                                                                                                          |        |                                                                                                                                                                                                                                                                                                                                                                                      |
| 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  | <b>Camouflage, i.e. means or methods for concealment or disguise</b> (for vessels <a href="#">B63G 8/34</a> , <a href="#">B63G 13/02</a> {; sound camouflage, i.e. simulating gun fire noise, <a href="#">F41A 33/04</a> ; dummy or decoy targets <a href="#">F41J</a> ; chaff <i>per se</i> <a href="#">F41J 2/00</a> ; ammunition for dispensing chaff <a href="#">F42B 5/15</a> , <a href="#">F42B 12/70</a> ; radar absorbing fabrics <a href="#">H01Q 17/005</a> )) | 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. <a href="#">D04</a> )                                                                                                                                                                                                                                                                                         | 5/0435 | . . . {the additional layers being only fibre- or fabric-reinforced layers}                                                                                                                                                                                                                                                                                                          |
| 5/00  | <b>Armour; Armour plates</b> (processes for manufacturing or treating <a href="#">B21</a> , <a href="#">C21</a> , {heat treatment <a href="#">C21D 9/42</a> ; wall or panel structure for safes <a href="#">E05G 1/024</a> })                                                                                                                                                                                                                                            | 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> )}                                                                                                                                                                                                                 |
| 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 <a href="#">F41H 5/0428</a> , with metal layers <a href="#">F41H 5/0457</a> )}                                                                                                                                                                                               |
| 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 <a href="#">A41D 31/24</a> ; layered products <a href="#">B32B</a> ; shaping reinforced articles <a href="#">B29C 67/00</a> )}                                                                                                                                                                                                                                                       | 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 <a href="#">B63G 9/00</a> ; in aircraft <a href="#">B64D 7/00</a> {; blasting mats <a href="#">F42D 5/05</a> })                                                                                                                                                                                                                                                  |
|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 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> <a href="#">F41C 27/04</a> )}                                                                                                                                                                                                                                               |

- 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 repellant 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 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](#))}
- 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; Caltraps {(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

- 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}