

F41G

WEAPON SIGHTS; AIMING (optical aspects thereof [G02B](#))

Definition statement

This place covers:

Sighting devices.

Aiming and Laying means.

Elevating or traversing control systems for weapons.

Direction control systems for missiles or projectiles.

Relationships with other classification places

[F41G](#) is a classification entry directed to applications.

Specificities relating to functions involved for achieving sighting and aiming are to be classified in the corresponding functional classification entries (e.g. [G01](#) for measuring aspects, [G02](#) for optical aspects, [G05](#) for control and regulation aspects, [G06](#) for computers aspects, [G09](#) for simulation aspects).

Special rules of classification

The classification is exclusively done on the basis of the CPC classes.

Specific details in given subgroups should be allocated as additional information.

Group [F41G 1/387](#) is not in use. EC classification is to be given in group [F41G 11/001](#): 'Means for mounting tubular or beam shaped sighting on firearms'. IPC [F41G 1/387](#) must be allocated.

Though the title of subgroup [F41G 3/00](#) refers to laying means, elevating or traversing control systems for weapons are classified in [F41G 5/00](#).

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Aiming	Bringing a weapon to a direction differing from the sighting direction by corrections in order that the projectile may hit the target
Sighting	Bringing into visual coincidence a direction defined by a so-called "sighting" device with the direction of a target
Laying	Setting a weapon in the correct position for hitting a target

F41G 1/00

Sighting devices (for indirect laying of fire [F41G 3/16](#); bombsights [F41G 3/24](#) {; structurally associated with laser telemeters [F41G 3/065](#); mounting tubular or beam shaped aiming devices on firearms [F41G 11/001](#)})

Definition statement

This place covers:

Mechanical aspects of sighting devices, which are either fixedly or detachably mounted on weapons, i. e. iron sights, telescopic sights, periscopic sight as well as tube and bar sights. The group further includes means for protecting, adjusting and for testing of such mechanical sighting devices. This group further includes weapon mounted means for illuminating the sights or the the target.

References

Limiting references

This place does not cover:

Aiming means; Laying means	F41G 3/00
Structural association of sighting-devices with laser telemeters	F41G 3/065
Indirect laying of fire	F41G 3/16
Bombsights	F41G 3/24
Means for mounting tubular or beam shaped sighting or aiming devices on firearms	F41G 11/001
Optical aspects of sighting devices	G02B 23/00 , G02B 27/00
Shooting or aiming glasses	G02C 5/003

F41G 1/01

characterised by the visual combination effect of the respective geometrical forms of fore and rear sight ([F41G 1/42](#) takes precedence)

References

Limiting references

This place does not cover:

Tube sights; Bar sights	F41G 1/42
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Special rules of classification

The present group is a combination of two distinct concepts, a document classified here should have parallel entries in [F41G 1/02](#), [F41G 1/06](#).

F41G 1/02

Foresights

Definition statement

This place covers:

Sights mounted at the distal end of the weapon and having a small dimension parallel to the barrel axis.

F41G 1/033

adjustable

References

Limiting references

This place does not cover:

Tools for adjustment of sights	F41G 1/545
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F41G 1/06

Rearsights

Definition statement

This place covers:

Sights mounted at the proximal end of the weapon and having a small dimension parallel to the barrel axis.

F41G 1/08

with aperture {; tubular or of ring form; Peep sights ([F41G 1/42](#) takes precedence)}

References

Limiting references

This place does not cover:

Tube sights; Bar sights	F41G 1/42
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F41G 1/16

Adjusting mechanisms therefor; Mountings therefor

References

Limiting references

This place does not cover:

Tools for adjustment of sights	F41G 1/545
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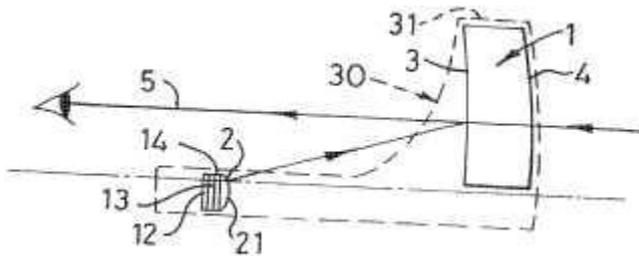
F41G 1/30

Reflecting-sights specially adapted for smallarms or ordnance (reflecting-sights in general [G02B](#))

Definition statement

This place covers:

Sights with light source projecting the image of an aiming point or a reticle into the eye of the shooter either via a half-mirror or direct.



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References

Limiting references

This place does not cover:

Illumination of the sights	F41G 1/345
Periscopic sights for smallarms	F41G 1/40

Informative references

Attention is drawn to the following places, which may be of interest for search:

Reflecting sights in general	G02B
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F41G 1/32

Night sights, e.g. luminescent {(optical aspects of sighting devices [G02B 23/00](#), [G02B 27/00](#))}

Definition statement

This place covers:

Also includes daylight sights with active illumination of target or sights.

References

Limiting references

This place does not cover:

Mounting of nightsights	F41G 11/001
Night vision devices	G02B 23/12

Informative references

Attention is drawn to the following places, which may be of interest for search:

Optical aspects of telescopes	G02B 23/00
Optical aspects of other sighting devices	G02B 27/00

F41G 1/345

{for illuminating the sights}

Definition statement

This place covers:

Includes active illumination of the sights by a powered light source.

Includes passive illumination of the sights by gathering and guiding ambient light to the sights.

Includes fluorescent and chemoluminescent markers on iron sights.

References**Limiting references**

This place does not cover:

Virtual image of a reticle or an aiming point projected in the eye of the shooter	F41G 1/30
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F41G 1/35

for illuminating the target {, e.g. flash lights}

References**Limiting references**

This place does not cover:

Laser pointers	G02B 27/20
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F41G 1/38

Telescopic sights specially adapted for smallarms or ordnance (telescopic sights in general [G02B](#)); Supports or mountings therefor

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Optical elements, systems or apparatus	G02B
Optical aspects of telescopes	G02B 23/00

F41G 1/387

Mounting telescopic sights on smallarms

Special rules of classification

This group is not in use.

EC classification is to be given in group [F41G 11/001](#): 'Means for mounting tubular or beam shaped sighting on firearms'

IPC [F41G 1/387](#) must be allocated.

F41G 1/40

Periscopic sights specially adapted for smallarms or ordnance (periscopic sights in general [G02B](#)); Supports or mountings therefor

Definition statement

This place covers:

Includes sights enabling shooting around the corner.

References

Limiting references

This place does not cover:

Sighting devices adapted for indirect laying of fire using a TV-monitor	F41G 3/165
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Optical elements, systems or apparatus	G02B
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F41G 1/41

Mounting periscopic sights on smallarms

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Mounting of tubular periscopic sights on smallarms	F41G 11/001
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F41G 1/42

Tube sights; Bar sights {; Combinations of tubular fore and rearsights}

Definition statement

This place covers:

Tubular sights or cylindrical sights, the cross-section not being necessarily circular, functioning by the tunnel effect, void of any optical components.

References

Limiting references

This place does not cover:

Telescopic sights	F41G 1/38
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F41G 1/425

{Bar sights}

Definition statement

This place covers:

Open sights (as opposed to the tubular sights) with a substantial longitudinal dimension with respect to the barrel length. Either single sight so as to aim along its length or combination of fore and rear sight.

Special rules of classification

If it is a combination of bar and tube sight, classify in [F41G 1/42](#) and [F41G 1/425](#).

F41G 1/44

Spirit-level adjusting means, e.g. for correcting tilt; {Means for indicating or correcting tilt or cant}

Definition statement

This place covers:

Means for indicating the spacial orientation of the firearm, the adjusting is done by the shooter himself.

F41G 1/46

for particular applications

Special rules of classification

The present group is an application group, a document classified here should have parallel entries in [F41G 1/01-F41G 1/425](#).

F41G 1/467

for bows

References

Limiting references

This place does not cover:

Telescope sights for bows	F41G 1/38
Accessories for bows (other than sights)	F41B 5/14

F41G 1/473

for lead-indicating or range-finding, e.g. for use with rifles or shotguns

References

Limiting references

This place does not cover:

Arrangements for maintaining the aiming of a weapon with respect to a moving target	F41G 5/00
Adaptations of rangefinders for combination with telescopes or binoculars	G01C 3/04

F41G 1/54

Devices for testing or checking {; Tools for adjustment of sights}

Definition statement

This place covers:

Devices and tools to test the function of the sights and/or the parallelity of sight and barrel.

References

Limiting references

This place does not cover:

Arrangements for checking the straightness of gun barrels	F41A 31/02
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F41G 3/00

Aiming or laying means (sighting devices [F41G 1/00](#); determining direction, distance or velocity by use of radio or other waves [G01S](#); computers [G06](#); antennas [H01Q](#))

Definition statement

This place covers:

Arrangements for the aiming of weapons.

Arrangements for teaching or practicing the aiming of weapons.

Arrangements for testing or checking weapon aiming means.

Relationships with other classification places

Details relating to sensing elements determining distance, direction, attitude and velocity are classified in the relevant groups of [G01S](#) and [G01C](#).

References

Limiting references

This place does not cover:

Structural details of sighting devices	F41G 1/00
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Limiting references

Sighting devices combined with light source for illuminating a target	F41G 1/35
Sighting devices for range-finding or lead indicating	F41G 1/473

Informative references

Attention is drawn to the following places, which may be of interest for search:

Elevating or traversing control systems for guns	F41G 5/00
Elevating or traversing control systems for vehicle-borne weapons	F41G 5/14
Systems for guiding a craft to a correct firing position	F41G 9/002
Means for mounting tubular or beam shaped sighting or aiming devices on firearms	F41G 11/001
Aircrafts of the remote controlled vehicle type, i.e. RPV	B64C 39/024
Means for inhibiting firing in a specified direction	F41A 17/08
Light- or radiation-emitting guns	F41A 33/02
Photo-electric hit-detector systems	F41J 5/02
Projectiles transmitting information to a remote location using optical or electronic means	F42B 12/365
Adaptation of rangefinders for combination with telescopes or binoculars	G01C 3/04
Projectile velocity measurements	G01P 3/665
Determining direction, distance or velocity by use of radio or other waves	G01S
LIDARS for meteorological use	G01S 17/95
Optical details of sighting devices	G02B 23/00
Computers	G06
Simulators for teaching or training purposes, for military purposes and tactics	G09B 9/003
Antennas	H01Q

Special rules of classification[F41G 3/02](#)

This group contains aiming arrangements wherein an observing position is remotely situated from the firing position (e.g. targeting using a remote observation platform).

[F41G 3/04](#)

This group contains arrangements for aiming at multiple targets, or for firing at one or more targets with multiple projectiles fired from one or more firing positions. This includes in particular the coordination of multiple firing platforms, the resolution of the weapon/target assignment problem and the control of the spread of a shot

[F41G 3/06](#) and [F41G 3/065](#)

These groups contain aiming arrangements making use of range-finding sensors. In particular, these group contains the systems wherein the motion of a target and/or the ballistic trajectory of a projectile are compensated, in accordance with the distance to the target estimated using a range-finding arrangement.

F41G 5/00

Elevating or traversing control systems for guns ({means for inhibiting firing in a specified direction [F41A 17/08](#)}; gun mountings permitting traversing or elevating movement, e.g. gun carriages, [F41A 27/00](#); computers [G06](#))

Definition statement

This place covers:

Arrangements for setting a weapon in a predetermined firing position.

Arrangements for maintaining the aiming direction of a weapon with respect to a moving target.

Arrangements for maintaining the aiming direction of a weapon mounted on a mobile platform.

Arrangements for testing or checking elevating or traversing control systems for weapons

Though the title of the group refers to elevating or traversing control systems for guns, this group applies to elevating or traversing control systems for weapons in general (e.g. missile/rocket launchers).

Relationships with other classification places

Specific details relating to sensing elements determining distance, direction and velocity are classified in the relevant groups of [G01S](#).

References

Limiting references

This place does not cover:

Determining the aiming direction of a weapon	F41G 3/00
Gun mountings permitting traversing or elevating movement, e.g. gun carriages	F41A 27/00
Details of sensors for the tracking of targets	G01S

Informative references

Attention is drawn to the following places, which may be of interest for search:

Aiming means for vehicle-borne armament, e.g. on aircraft	F41G 3/22
Systems for guiding a craft to a correct firing position	F41G 9/002
Means for inhibiting firing in a specified direction	F41A 17/08
Rocket or torpedo launchers	F41F 3/00

F41G 7/00

Direction control systems for self-propelled missiles (flight control [B64C](#), [G05D 1/00](#) {; counter-measures against guided missiles [F41H 11/02](#); spin-stabilised missiles [F42B 10/26](#)}; self-propelled or guided missiles having direction control systems only installed aboard [F42B 15/01](#); rocket torpedoes [F42B 17/00](#); marine torpedoes or sea-mines having self-propulsion means [F42B 19/00](#); locating by use of radio or other waves [G01S](#); computing aspects [G06](#))

Definition statement

This place covers:

Arrangements for the determination of the relative position between a guided missile and a target.

Preparatory measures taken before the launching of the guided missiles.

Guided missiles training or simulation devices.

Devices or systems for testing or checking arrangements for the determination of the relative position between a self-propelled missile and a target.

Though the title of the group refers to self-propelled missiles, the group also relates to un-propelled guided projectiles such as guided artillery shells and glide-bombs.

Relationships with other classification places

Specific details relating to sensing elements determining distance, direction and velocity are classified in the relevant groups of [G01S](#).

References

Limiting references

This place does not cover:

Flight control of aircrafts	B64C
Steering arrangements for missiles	F42B 10/60
The physical integration of arrangements for guidance or control in missiles	F42B 15/01
Proximity fuzes	F42C 13/00
Control of position, course, altitude or attitude of land, water, air or space vehicles	G05D 1/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Dropping, ejecting, releasing weapons in flight	B64D 1/04
Arrangements of military equipment, e.g. armaments, armament accessories, in aircraft	B64D 7/00
Rocket or torpedo launchers	F41F 3/00
Anti-guided missile defence installations or systems	F41H 11/02
Directed energy weapons, for blinding or dazzling, i.e. by overstimulating the enemy's sensor equipment	F41H 13/0056

Spin stabilized missiles	F42B 10/26
Chaff dispensers	F42B 12/70
Testing of ammunition	F42B 35/00
Optical direction finders	G01S 3/78
Anti-jamming means for radars	G01S 7/36
Means for jamming radar	G01S 7/38
Counter-measures or counter-counter-measures using electronic or electro-optical means	G01S 7/495
Homing radars	G01S 13/883
Sonar systems specially adapted for specific applications	G01S 15/88
Lidar systems specially adapted for specific applications	G01S 17/88
Satellite radio beacon positioning systems receivers specially adapted for military applications	G01S 19/18

Special rules of classification

[F41G 7/006](#)

This group contains guided missiles simulation devices, which can be used for training purposes or for the testing of launching platforms. Guided missile simulation devices, used for the testing of launching platforms should also be classified in the relevant subgroup of [F41G 7/001](#).

[F41G 7/007](#)

This group relates to all procedures performed before the launching of the missile, such as for instance:

The pre-launch testing of a missile,

The in-flight verification of the proper firing condition of the missile,

The alignment or calibration of the missiles' sensors,

The acquisition of the target by the missile,

The transmission of data to the missile,

The weapon and target assignation in the case of multi-missile or multi-target systems.

[F41G 7/008](#)

This group relates to systems combining multiple different guidance systems (e.g. beam-riding and homing; passive infrared homing and semi-active laser homing, etc.).

Systems combining multiple guidance systems should also be classified in the groups corresponding to the guidance systems considered individually.

[F41G 7/22](#) and [F41G 7/2213](#)

Passive homing system (e.g. passive infrared homing sensors, passive radio homing sensors) do not, for the time being, have a dedicated group

and should be classified in the top group [F41G 7/22](#) or in the sub-group [F41G 7/2213](#) if applicable.

[F41G 7/2206](#) and [F41G 7/30](#)

Special rules of classification

The group [F41G 7/2206](#) relates to homing systems (i.e. wherein the target tracker and the guidance computers are situated in the missile) establishing a communication link with a remotely situated system, for instance for:

the preliminary guidance in the case lock on after launch homing systems,

the remote designation of an aim point,

the remote processing of data picked up by the missile,

the transmission of assistance data.

Systems establishing a communication link with a remotely situated system, wherein the guidance computers or the target tracker are not situated in the missile, should be classified in the relevant subgroups of [F41G 7/30](#).

[F41G 7/226](#) and [F41G 7/24](#)

Semi-active homing systems are systems wherein the reflection by a target of a signal transmitted by a remotely situated designator is tracked.

Beam-riding systems correspond to systems wherein a missile is guided in relation to a reference direction defined by a beam projected from a remotely situated system and received directly by the missile.

[F41G 7/34](#)

Systems making use of satellite navigation systems (e.g. GPS, GALILEO, GLONASS) do not, for the time being, have a dedicated group and should be classified in the top group [F41G 7/34](#). Systems making use of a satellite navigation system receiver hybridized with an inertial measurement unit should be classified in the [F41G 7/36](#) group.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Homing systems	Systems wherein the target tracker and the guidance computers are situated in the missile.
Command-link systems	System wherein the target tracker and/or the guidance computers are remotely situated from the missile (e.g. command to line-of-sight systems)
Beam-riding systems	Systems wherein a missile is guided in relation to reference direction defined by a beam projected from a remotely situated transmitter.

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

SAL	Semi-Active Laser: Systems wherein the reflection by a target of a laser signal transmitted by a remotely situated designator is tracked
PIR	Passive Infrared: Systems wherein the infrared signature of a target is tracked
DIRCM	Direct Infrared Counter Measure: Counter measure system wherein the infrared seeker of a missile is dazzled or disabled using an infrared radiation source
MWS	Missile Warning System

CLOS	Command to line of sight guidance systems
LOAL	Lock-on After Launch: Homing systems wherein the target is acquired and locked-on after the missile has been launched
LOBL	Lock-on Before Launch: Homing systems wherein the target is acquired and locked-on before the missile is launched

F41G 9/00

Systems for controlling missiles or projectiles, not provided for elsewhere

Definition statement

This place covers:

Arrangements for guiding a craft to a correct condition for firing or dropping a weapon.

Corresponding arrangements for training or teaching.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Aiming arrangements for vehicle-borne armament, e.g. on aircraft	F41G 3/22
Bombsights	F41G 3/24
Elevating or traversing control systems for vehicle-borne weapons	F41G 5/14
Preparatory measures taken before the launching of the guided missiles	F41G 7/007
Acoustic homing guidance systems, e.g. for torpedoes	F41G 7/228
Safety arrangements for inhibiting firing in a specified direction, e.g. at a friendly person or at a protected area	F41A 17/08
Torpedo launching apparatus	F41F 3/08

F41G 11/00

Details of sighting or aiming apparatus; Accessories {(tools for adjustment of sights [F41G 1/545](#))}

Definition statement

This place covers:

Details and accessories relevant to sighting apparatuses, not covered in [F41G 1/00](#).

Special rules of classification

Mounting for telescopic sights are classified in IPC-group [F41G 1/387](#).

F41G 11/001

{Means for mounting tubular or beam shaped sighting or aiming devices on firearms}

Definition statement

This place covers:

The devices being lamps, e.g. flashlights, telescopes or other tubular optical, optronic, electronic or electric devices mounted on smallarms.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Miscellaneous attachments for smallarms; Accessories	F41C 27/00
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Special rules of classification

Documents need to be classified in IPC group [F41G 1/387](#).

If the mounting means are also adapted for accessories other than sighting or aiming devices and is specifically for smallarms, consider classification in the generic accessories group [F41C 27/00](#).

F41G 11/003

{Mountings with a dove tail element, e.g. "Picatinny rail systems"}

Definition statement

This place covers:

Includes picatinny or weaver rails with integrated electric connections.