

CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS (NOTES omitted)

INSTRUMENTS

G03 PHOTOGRAPHY; CINEMATOGRAPHY; ELECTROGRAPHY; HOLOGRAPHY (reproduction of pictures or patterns by scanning and converting into electrical signals [H04N](#))

G03B APPARATUS OR ARRANGEMENTS FOR TAKING PHOTOGRAPHS OR FOR PROJECTING OR VIEWING THEM; APPARATUS OR ARRANGEMENTS EMPLOYING ANALOGOUS TECHNIQUES USING WAVES OTHER THAN OPTICAL WAVES; ACCESSORIES THEREFOR (optical parts of such apparatus [G02B](#); systems for automatic generation of focusing signals for optical elements *per se* [G02B 7/28](#); photosensitive materials or processes for photographic purposes [G03C](#); apparatus for processing exposed photographic materials [G03D](#))

NOTES

1. This subclass covers, as far as processes are concerned, only processes characterised by the use or manipulation of apparatus classifiable *per se* in this subclass.
2. {This subclass covers:
 - apparatus or methods for taking photographs using light sensitive film for image capture, apparatus, or methods for printing, for projecting or viewing images using film stock, photographic film or slides by optical means, e.g. mounting of optical elements, flashes, or their related controls, e.g. exposure, focus, (opto-)mechanical motion blur (anti-shake), cooling, beam shaping;
 - aspects of apparatus or methods for taking photographs using an electronic image sensor [EIS] for image capture, insofar as they correspond to those of said apparatus or methods for taking photographs using light sensitive film, i.e. insofar not peculiar to the presence of the EIS, e.g. mounting of optical elements or flashes not peculiar to the presence of the EIS, or their related controls insofar they are not peculiar to the presence of the EIS, e.g. exposure, focus, (opto-) mechanical motion blur (anti-shake);
 - aspects of apparatus or methods for projecting or viewing images using an electronic spatial light modulator [ESLM], insofar as they correspond to those of said apparatus or methods for projecting or viewing images using film stock, photographic film or slides, i.e. insofar as not peculiar to the presence of the ESLM, e.g. mounting of optical elements not peculiar to the presence of the ESLM, or their related controls not peculiar to the presence of the ESLM, e.g. cooling, beam shaping, optical keystone correction;
 - (opto-)mechanical image enhancement in printers or projectors, e.g. keystone correction;
 - optical viewfinders;
 - remote control of cameras and projectors insofar not peculiar to the EIS or ESLM;
 - optical aspects of camera modules using electronic image sensors or related constructional details;
 - constructional aspects of projectors, e.g. cooling, beam shaping, light integrating means not peculiar to the ESLM.}
3. {This subclass does not cover:
 - concerning cameras or projectors:
 - arrangements or methods for image capture peculiar to the presence or use of an EIS or image projection peculiar to the presence or use of an ESLM, and their related controls insofar they are peculiar to the presence or use of the EIS or ESLM, which are covered by [H04N](#);
 - processing of electrical image signals from the EIS or provided to the ESLM, which is covered by [H04N](#);
 - electronic viewfinders, e.g. control of image pickup devices based on information indicated by the electronic viewfinder displaying an image signal generated by the EIS, which are covered by [H04N](#);
 - electrical or mechanical aspects of camera modules using electronic image sensors and related constructional details as in webcams or mobile phones, which are covered by [H04M](#), [H04N](#);
 - details of projectors peculiar to the use of an ESLM, e.g. dichroic or polarizing arrangements specially adapted for the ESLM, which are covered by [H04N](#);
 - remote control of cameras or projectors peculiar to the EIS or the ESLM, e.g. affecting their operation, or based on a generated electrical image signal, which is covered by [H04N](#);
 - adaptations peculiar to the use of an EIS or ESLM or the display, the transmission, recording or other use of electrical image data and related circuitry, e.g. mounting of EIS or ESLM, integrated cleaning system for the EIS, dust mapping, cooling of the EIS. which are covered by [H04N](#);
 - video cameras, TV cameras, e.g. in studios, CCTV cameras, surveillance cameras and camcorders; constructional and mechanical details related to such cameras, e.g. housings, even when not peculiar to the presence of an EIS, which are covered by [H04N 5/225](#);

G03B

(continued)

- systems or apparatus wherein the inventive contribution lies in features covered above, concerning cameras when interacting with those to be covered by [G03B](#), e.g. switch-over between electronic motion-blur correction of electronic viewfinder during focussing and optical motion-blur correction of the lens during exposure, electronic-motion blur correction of the electronic image signal based on output signals of additional sensor, or interaction between mechanical shutter and electronic control of the charge accumulation period of the EIS, which are covered by [H04N](#).
 - EIS-sensor read-out, which is covered by [H04N 5/335](#);
 - processing or use of electrical image signals from the EIS for the generation of camera control signals. e.g. focusing, exposure control, electronic blur correction, display in electronic viewfinder, which are covered by [H04N 5/232](#), [H04N 5/235](#).
 - optical parts for apparatus or arrangements for taking photographs or for projecting or viewing them, which are covered by [G02B](#);
 - photosensitive materials for photographic purposes, which are covered by [G03C](#);
 - apparatus for processing exposed photographic materials; accessories therefor, which are covered by [G03D](#).
 - optical elements or arrangements associated with solid state imager structures, which are covered by [H01L 27/146](#);
4. {In this subclass the following expression is used with the meaning indicated:
subject to the application of Notes 1 and 2 above, "photography" is the process of recording pictures by means of capturing light on a light-sensitive medium, e.g. silver halide based chemical or an electronic image sensor. Light patterns reflected or emitted from objects expose such a light sensitive medium during a timed exposure, usually through a photographic lens in a device known as a camera. }
5. {In this subclass, as in subclass [H04N](#), the following terms are used with the meaning indicated:
- "camera": a device capturing image information represented by light patterns reflected or emitted from objects, and exposing a light sensitive film or a main electronic image sensor during a timed exposure, usually through a photographic lens, and producing an image on a light sensitive film or an electrical image information signal respectively;
 - "projector": a device displaying image information by projection of light patterns, usually through an optical lens, wherein the light patterns are generated by illuminating an image, e.g. film or slide, or by converting an electric image signal into an optical signal using an electronic spatial light modulator;
 - "electronic image sensor [EIS]": optoelectronic transducer, converting optical image information into an electrical signal susceptible of being processed, stored, transmitted or displayed;
 - "additional sensor": a sensor, other than the main electronic image sensor, used for controlling a camera;
 - "electronic spatial light modulator [ESLM]": optoelectronic transducer converting electric signals representing image information into optical image information. }

Details common to at least two of the following types of apparatus: cameras, projectors, printers (details common to cameras only [G03B 7/00](#) - [G03B 17/00](#), to projectors only [G03B 21/00](#), [G03B 23/00](#), to printers only [G03B 27/00](#))

1/00 Film strip handling

- 1/02 . Moving film strip by pull on end thereof
- 1/04 . . Pull exerted by take-up spool
- 1/06 . . . rotated by lever operated ratchet and pawl
- 1/08 . . . rotated by band, chain, rack, or other linear reciprocating operation
- 1/10 . . . rotated by knob through gearing
- 1/12 . . . rotated by motor, e.g. spring
- 1/14 . . Special arrangements to ensure constant length of movement of film
- 1/16 . . . by film-arresting pins
- 1/18 . Moving film strip by means which act on the film between the ends thereof
- 1/20 . . Acting means
- 1/22 . . . Claws or pins engaging holes in the film
- 1/24 . . . Sprockets engaging holes in the film
- 1/26 . . . Spiked wheels or pins not penetrating the film
- 1/28 . . . Shuttle feed
- 1/30 . . . Belt feed
- 1/32 . . . Friction grippers or rollers
- 1/34 . . . Beaters
- 1/36 . . . Pneumatic acting means
- 1/38 . . embodying Geneva motion, e.g. Maltese-cross gearing
- 1/40 . embodying frictional coupling or clutches
- 1/42 . Guiding, framing, or constraining film in desired position relative to lens system

- 1/44 . . Guides engaging edge of film ([gates G03B 1/48](#))
- 1/46 . . Rollers engaging face of film, e.g. barrel, waisted, conical ([gates G03B 1/48](#))
- 1/48 . . Gates or pressure devices, e.g. plate
- 1/50 . . . adjustable or interchangeable, e.g. for different film widths
- 1/52 . . . Pneumatic pressure devices
- 1/54 . . Tensioning or loop-maintaining devices
- 1/56 . Threading; Loop forming
- 1/58 . . automatic
- 1/60 . Measuring or indicating length of the used or unused film; Counting number of exposures ([measuring length in general G01B](#))
- 1/62 . . involving locking or stop-motion devices
- 1/64 . . by means which ascertain the radius of the film coiled on a spool
- 1/66 . . Counting number of exposures ([counting mechanisms per se G06M](#))
- 3/00 Focusing arrangements** ([focusing means, autofocus systems for cameras G03B 13/00](#); means for automatic focusing of projectors [G03B 21/53](#); means for automatic focusing of projection-printing apparatus or copying cameras [G03B 27/34](#), [G03F](#))
- 3/02 . moving lens along baseboard
- 3/04 . adjusting position of image plane without moving lens
- 3/06 . . using movable reflectors to alter length of light path
- 3/10 . Power-operated focusing
- 3/12 . . adapted for remote control ([control systems in general G05](#))

5/00 Adjustment of optical system relative to image or object surface other than for focusing

- 5/02 . Lateral adjustment of lens
- 5/04 . Vertical adjustment of lens; Rising fronts
- 5/06 . Swinging lens about normal to the optical axis
- 5/08 . Swing backs

7/081 . . Analogue circuits

WARNING

Groups [G03B 7/081](#) - [G03B 7/089](#) are incomplete pending reclassification of documents from group [G03B 7/0807](#).

Group [G03B 7/0807](#) should be considered when searching any group of the range [G03B 7/081](#) - [G03B 7/089](#) in order to perform a complete search.

- 7/083 . . . for control of exposure time
- 7/085 . . . for control of aperture
- 7/087 . . . for control of both exposure time and aperture
- 7/089 . . . for storage of exposure value in mirror reflex cameras

7/091 . . Digital circuits

WARNING

Groups [G03B 7/091](#) - [G03B 7/097](#) are incomplete pending reclassification of documents from group [G03B 7/0807](#).

Group [G03B 7/0807](#) should be considered when searching any group of the range [G03B 7/091](#) - [G03B 7/097](#) in order to perform a complete search.

- 7/093 . . . for control of exposure time
- 7/095 . . . for control of aperture
- 7/097 . . . for control of both exposure time and aperture
- 7/099 . . Arrangement of photoelectric elements in or on the camera
- 7/09908 . . . {on the camera or in the objective}
- 7/0993 . . . in the camera
- 7/0997 Through the lens [TTL] measuring
- 7/09971 {in mirror-reflex cameras ([G03B 7/09979](#) takes precedence)}
- 7/09972 {using the mirror as sensor light reflecting or transmitting member}
- 7/09973 {using the mirror as sensor}
- 7/09974 {using the film or shutter as sensor light reflecting member}
- 7/09976 {the sensor being mounted in, before, or behind the porro-prism}
- 7/09977 {with a movable light-measuring element}
- 7/09978 {Protection against viewer backlight or integration of the viewer light into the measured light}
- 7/09979 {Multi-zone light measuring}
- 7/10 . . a servo-motor providing energy to move the setting member
- 7/12 . . a hand-actuated member moved from one position to another providing the energy to move the setting member, e.g. depression of shutter release button causes a stepped feeler to co-operate with the pointer of the light-sensitive device to set the diaphragm and thereafter release the shutter
- 7/14 . . . setting of both shutter and diaphragm aperture being effected so as to give the optimum compromise between depth of field and shortness of exposure

Details common to cameras**7/00 Control of exposure by setting shutters, diaphragms or filters, separately or conjointly (control of exposure in television cameras by means of circuitry influencing the optical part of the camera [H04N 5/238](#))****WARNING**

Group [G03B 7/00](#) is impacted by reclassification into groups [G03B 7/01](#) and [G03B 7/30](#).

Groups [G03B 7/00](#), [G03B 7/01](#) and [G03B 7/30](#) should be considered in order to perform a complete search.

- 7/003 . {setting of both shutter and diaphragm ([G03B 7/02](#) - [G03B 7/22](#) take precedence)}
- 7/006 . {setting of both diaphragm and distance ([G03B 7/02](#) - [G03B 7/22](#) take precedence)}
- 7/01 . with selection of either manual or automatic mode

WARNING

Group [G03B 7/01](#) is incomplete pending reclassification of documents from group [G03B 7/00](#).

Groups [G03B 7/00](#) and [G03B 7/01](#) should be considered in order to perform a complete search.

- 7/02 . Control effected by setting a graduated member on the camera in accordance with indication or reading afforded by a light meter, which may be either separate from or built into camera body
- 7/04 . Control effected by hand adjustment of a member that senses indication of a pointer of a built-in light-sensitive device, e.g. by restoring point to a fixed associated reference mark
- 7/06 . . by a follow-up movement of an associated reference mark to the pointer
- 7/08 . Control effected solely on the basis of the response, to the intensity of the light received by the camera, of a built-in light-sensitive device
- 7/0805 . . Setting of priority modes
- 7/0807 . . {Control circuits ([G03B 7/10](#) takes precedence)}
- (Frozen)

WARNING

Group [G03B 7/0807](#) is no longer used for the classification of documents as of July 1, 2014. The content of this group is being reclassified into groups [G03B 7/081](#) - [G03B 7/097](#).

Until reclassification is complete, groups [G03B 7/0807](#) and [G03B 7/081](#) - [G03B 7/097](#) should be considered in order to perform a complete search.

- 7/16 . in accordance with both the intensity of the flash source and the distance of the flash source from the object, e.g. in accordance with the "guide number" of the flash bulb and the focusing of the camera
- WARNING**
- Group [G03B 7/16](#) is impacted by reclassification into group [G03B 7/17](#).
- Groups [G03B 7/16](#) and [G03B 7/17](#) should be considered in order to perform a complete search.
- 7/17 . . Selection of modes in flash units by exposure control arrangements
- WARNING**
- Group [G03B 7/17](#) is incomplete pending reclassification of documents from group [G03B 7/16](#).
- Groups [G03B 7/16](#) and [G03B 7/17](#) should be considered in order to perform a complete search.
- 7/18 . in accordance with light-reducing "factor" of filter or other obturator used with or on the lens of the camera
- 7/20 . in accordance with change of lens
- 7/22 . in accordance with temperature or height, e.g. in aircraft
- 7/24 . automatically in accordance with markings or other means indicating film speed or kind of film on the magazine to be inserted in the camera
- 7/26 . Power supplies; Circuitry or arrangement to switch on the power source; Circuitry to check the power source voltage
- 7/28 . Circuitry to measure or to take account of the object contrast
- 7/30 . Safety arrangements for control of exposure
- WARNING**
- Group [G03B 7/30](#) is incomplete pending reclassification of documents from group [G03B 7/00](#).
- Groups [G03B 7/00](#) and [G03B 7/30](#) should be considered in order to perform a complete search.
- 9/00 Exposure-making shutters; Diaphragms**
- 9/02 . Diaphragms
- 9/04 . . Single movable plate with two or more apertures of graded size, e.g. sliding plate, pivoting plate
- 9/06 . . Two or more co-operating pivoted blades, e.g. iris type (shutters functioning as diaphragms by limiting extent of opening movement [G03B 9/08](#))
- 9/07 . . with means for presetting the diaphragm
- 9/08 . Shutters (electro-, magneto-, or acousto-optical shutters [G02F 1/00](#))
- 9/10 . . Blade or disc rotating or pivoting about axis normal to its plane
- 9/12 . . . Two relatively-adjustable aperture-defining members moving as a unit
- 9/14 . . . Two separate members moving in opposite directions
- 9/16 . . . Two separate members moving in the same direction
- 9/18 . . . More than two members
- 9/20 each moving in a single direction first to open and then to reclose
- 9/22 each moving in one direction to open and then in opposite direction to close, e.g. iris type
- 9/24 . . . Adjusting size of aperture formed by members when fully open so as to constitute a virtual diaphragm that is adjustable
- 9/26 . . . incorporating cover blade or blades
- 9/28 . . Roller blind or flexible plate
- 9/30 . . . Single blind with multiple slots or other aperture
- 9/32 . . . Double blind
- 9/34 with adjustable slot; with mechanism controlling relative movement of blinds to form slot
- 9/36 . . Sliding rigid plate
- 9/38 . . . Single rigid plate with multiple slots or other apertures
- 9/40 . . . Double plate
- 9/42 with adjustable slot; with mechanism controlling relative movement of plates to form slot
- 9/44 . . . Curved track and plate
- 9/46 . . Flap shutters pivoting about axis in plane of flap
- 9/48 . . . Double flap
- 9/50 . . . Louvre type
- 9/52 . . Barrel shutters
- 9/54 . . Conical shutters; Rotating plate with axis of rotation inclined to optical axis of shutter
- 9/58 . Means for varying duration of "open" period of shutter
- 9/60 . . by varying speed of movement of obturating members
- 9/62 . . by varying interval of time between end of opening movement and beginning of closing movement
- 9/64 . Mechanism for delaying opening of shutter (separate from shutter [G03B 17/38](#))
- 9/66 . Means for cocking shutter separate from means for releasing shutter
- 9/68 . . Cocking effected by movement of film
- 9/70 . with flash-synchronising contacts
- 11/00 Filters or other obturators specially adapted for photographic purposes (filters per se [G02B](#) ([G02B 5/20](#)))**
- 11/02 . Sky masks
- 11/04 . Hoods or caps for eliminating unwanted light from lenses, viewfinders or focusing aids
- WARNING**
- Groups [G03B 11/041](#) - [G03B 11/048](#) are not complete pending reclassification; see also [G03B 11/04](#)
- 11/041 . . {Lens caps as separate accessory (accessories in general [G03B 17/56](#))}
- 11/043 . . {Protective lens closures or lens caps built into cameras}
- 11/045 . . {Lens hoods or shields}
- 11/046 . . {for viewfinders or eyepieces}
- 11/048 . . {Hoods or caps not provided for in groups [G03B 11/041](#) - [G03B 11/046](#)}

- 11/06 . . . Lens caps for exposure making
- 13/00 Viewfinders; Focusing aids for cameras; Means for focusing for cameras; Autofocus systems for cameras** (hoods, caps [G03B 11/04](#); reflex camera arrangements [G03B 19/12](#), [G03B 19/14](#); rangefinders *per se* [G01C 3/00](#); automatic focusing in general [G02B 7/09](#); systems for automatic generation of focusing signals [G02B 7/28](#))
 - 13/02 . Viewfinders
 - 13/04 . . of direct vision type, e.g. frame, sighting mark
 - 13/06 . . with lenses with or without reflectors
 - 13/08 . . . with reflected image of frame
 - 13/10 . . adjusting viewfinders field
 - 13/12 . . . to compensate for change of camera lens or size of picture
 - 13/14 . . . to compensate for parallax due to short range
 - 13/16 . . combined with focusing aids
 - 13/18 . Focusing aids
 - 13/20 . . Rangefinders coupled with focusing arrangements, e.g. adjustment of rangefinder automatically focusing camera
 - 13/22 . . . coupling providing for compensation upon change of camera lens
 - 13/24 . . Focusing screens
 - 13/26 . . . with magnifiers for inspecting image formed on screen
 - 13/28 . . . Image-splitting devices
 - 13/30 . . indicating depth of field
 - 13/32 . Means for focusing
 - 13/34 . . Power focusing
 - 13/36 . . . Autofocus systems
- 15/00 Special procedures for taking photographs; Apparatus therefor**
 - 15/003 . {Apparatus for photographing CRT-screens}
 - 15/006 . {Apparatus mounted on flying objects}
 - 15/02 . Illuminating scene
 - 15/03 . . Combinations of cameras with lighting apparatus; Flash units
 - 15/035 . . . Combinations of cameras with incandescent lamps
 - 15/04 . . . Combinations of photographic apparatus with non-electronic flash apparatus; Non-electronic flash units ({control of the photographic apparatus according to the flash apparatus characteristics [G03B 7/16](#); test apparatus for flash [G03B 43/00](#);} light sources using a charge of combustible material [F21K 5/00](#); ignition circuits [H05B 43/02](#))
 - 15/0405 {Non-electronic flash apparatus incorporated in photographic apparatus}
 - 15/041 {Separatable flash apparatus; Means for mounting the flash apparatus on the photographic apparatus}
 - 15/0415 {Mounting means comprising transversal slide and separate cable}
 - 15/0421 {Mounting means comprising transversal slide and incorporated contacts of the type "Hot shoe"}
 - 15/0426 {Mounting means comprising longitudinal slide and incorporated contacts (for multiple lamps)}
 - 15/0431 {Rotatable mounting means}
- 15/0436 {Mounting means for sequential translation}
- 15/0442 {Constructional details of the flash apparatus; Arrangement of lamps, reflectors, or the like ([G03B 15/0484](#) takes precedence)}
- 15/0447 {Energy sources; Batteries; Capacitors}
- 15/0452 {Electrical ignition means connected to the shutter}
- 15/0457 {Ignition mechanisms for sequential ignition of flash lamps}
- 15/0463 {Piezo-electric ignition mechanisms}
- 15/0468 {Ignition mechanisms permitting choice of multiple ignition modes; Adaptors for different modes}
- 15/0473 {Remote controlled ignition mechanisms}
- 15/0478 {Combinations of photographic apparatus with percussion type flash ignition systems}
- 15/0484 {Constructional details of the flash apparatus}
- 15/0489 {Means for ignition by percussion}
- 15/0494 {Means for mounting percussion type flash apparatus}
- 15/05 . . . Combinations of cameras with electronic flash apparatus; Electronic flash units (discharge lamps *per se* [H01J](#); circuit arrangements [H05B 41/00](#))
- 15/06 . . Special arrangements of screening, diffusing, or reflecting devices, e.g. in studio
- 15/07 . . . Arrangements of lamps in studios
- 15/08 . Trick photography
- 15/10 . . using back-projection, i.e. blending artificial background with real foreground
- 15/12 . . using mirrors
- 15/14 . for taking photographs during medical operations
- 15/16 . for photographing the track of moving objects (high-speed photography [G03B 39/00](#); recording tracks of nuclear particles [G01T 5/00](#))
- 17/00 Details of cameras or camera bodies; Accessories therefor** (lens hoods or caps [G03B 11/04](#))
 - 17/02 . Bodies
 - 17/04 . . collapsible, foldable, or extensible, e.g. book-type (bellows for instruments in general [G12B](#))
 - 17/045 . . . {Bellows}
 - 17/06 . . with exposure meters or other indicators built into body but not connected to other camera members
 - 17/08 . . Waterproof bodies or housings
 - 17/10 . . Soundproof bodies
 - 17/12 . . with means for supporting objectives, supplementary lenses, filters, masks, or turrets
 - 17/14 . . . interchangeably
 - 17/16 . . for containing both motion-picture camera and still-picture camera
 - 17/17 . . with reflectors arranged in beam forming the photographic image, e.g. for reducing dimensions of camera
 - 17/18 . Signals indicating condition of a camera member or suitability of light (indicating depth of field [G03B 13/30](#))
 - 17/20 . . visible in viewfinder
 - 17/22 . with means for cutting-off film
 - 17/24 . with means for separately producing marks on the film, e.g. title, time of exposure

- 17/245 . . {Optical means}
- 17/26 . Holders for containing light sensitive material and adapted to be inserted within the camera ([holders for X-ray films G03B 42/04](#))
- 17/265 . . {specially adapted for motion picture film, e.g. cassettes ([cassettes for projection purposes G03B 21/323](#))}
- 17/28 . Locating light-sensitive material within camera
- 17/30 . . Locating spools or other rotatable holders of coiled film
- 17/305 . . . {for roll film cameras}
- 17/32 . . Locating plates or cut films
- 17/34 . . . Changing plates or cut films
- 17/36 . Counting number of exposures ([of film strips G03B 1/66; counting mechanisms per se G06M](#))
- 17/38 . Releasing-devices separate from shutter ([integral with shutter G03B 9/08](#))
- 17/40 . . with delayed or timed action
- 17/42 . Interlocking between shutter operation and advance of film or change of plate or cut-film
- 17/425 . . {motor drive cameras}
- 17/44 . Means for exchanging focusing screen and light sensitive material
- 17/46 . Means for exposing single frames in motion-picture camera
- 17/48 . adapted for combination with other photographic or optical apparatus ([with microscopes, with telescopes G02B](#))
- 17/50 . . with both developing and finishing apparatus ([processing apparatus G03D](#))
- 17/52 . . . of the Land type
- 17/53 . . . for automatically delivering a finished picture after a signal causing exposure has been given, e.g. by pushing a button, by inserting a coin
- 17/54 . . with projector
- 17/55 . with provision for heating or cooling, e.g. in aircraft
- 17/56 . Accessories ([camera cases A45C 11/38; {lens caps G03B 11/041; stands or trestles as support for apparatus or articles placed thereon F16M 11/00; means for attachment of apparatus allowing quick-release F16M 11/041; means for supporting on, or holding steady relative to a person F16M 13/04; tripods F16M 11/24; tripods with telescopic legs F16M 11/32; monopod or tripod having a central telescopic column F16M 11/28; heads or undercarriages for supporting an object and allowing movement thereof F16M 11/043 - F16M 11/14 or F16M 11/2007 - F16M 11/24}](#))

WARNING

Groups [G03B 17/561 - G03B 17/568](#) are not complete pending reclassification; see also [G03B 17/56](#)

- 17/561 . . {Support related camera accessories}
- 17/563 . . {Camera grips, handles ([means in general for steadying hand-held apparatus F16M 13/00](#))}
- 17/565 . . {Optical accessories, e.g. converters for close-up photography, tele-converters, wide-angle converters}
- 17/566 . . {Accessory clips, holders, shoes to attach accessories to camera ([if integral part of camera body G03B 17/02](#))}

- 17/568 . . {Camera accessories not provided in groups [G03B 17/561 - G03B 17/566](#)}
- 17/58 . . Attachments for converting cameras into reflex cameras
- 19/00 Cameras ([details G03B 17/00](#))**
- 19/02 . Still-picture cameras
- 19/023 . . {Multi-image cameras}
- 19/026 . . . {Sequence cameras}
- 19/04 . . Roll-film cameras
- 19/06 . . . adapted to be loaded with more than one film, e.g. with exposure of one or the other at will ([G03B 19/07 takes precedence](#))
- 19/07 . . . having more than one objective
- 19/08 . . . with provision for alternative use with plates or cut-films
- 19/10 . . Plate or cut-film cameras ([with provision for alternative use with roll film G03B 19/08](#))
- 19/12 . . Reflex cameras with single objective and a movable reflector or a partly-transmitting mirror
- 19/14 . . with paired lenses, one of which forms image on photographic material and the other forms a corresponding image on a focusing screen
- 19/16 . . Pin-hole cameras
- 19/18 . Motion-picture cameras ([with non-intermittently running film G03B 41/02](#))
- 19/20 . . Reflex cameras
- 19/22 . . Double cameras
- 19/24 . . adapted to be loaded with more than one film, e.g. with exposure of one or the other at will
- 19/26 . . with fade-in and fade-out effects

21/00 Projectors or projection-type viewers; Accessories therefor ([devices for changing pictures G03B 23/00; Zoetropes G03B 25/00; photographic printing apparatus G03B 27/00; arrangements for obtaining special effects on stages or in circuses or in arenas F21W 21/11/06; optical projection comparators G01B 9/08; projection microscopes G02B 21/36 {laser projectors using scanning devices H04N 9/3129; interactive projectors, e.g. whiteboards, with input means to control the projection G06F 3/00; optical distortion correction, e.g. keystone G03B 21/14; projection devices comprising an electronic spatial light modulator and peculiar thereto H04N 5/74 or H04N 9/31}](#))

WARNING

Groups [G03B 21/001 - G03B 21/008](#) are incomplete pending reclassification of documents from group [G03B 21/00](#).

Until reclassification is complete, groups [G03B 21/00](#) and [G03B 21/001 - G03B 21/008](#) should be considered in order to perform a complete search.

- 21/001 . {Slide projectors}
- 21/003 . {Cine-projectors}
- 21/005 . {Projectors using an electronic spatial light modulator but not peculiar thereto}
- 21/006 . . {using LCD's}
- 21/008 . . {using micromirror devices}
- 21/02 . Multiple-film apparatus
- 21/04 . . Picture "juke-boxes"
- 21/06 . affording only episcopic projection

- 21/08affording epidiascopic projection
 - 21/10Projectors with built-in or built-on screen
([projection screens in general G03B 21/56](#))
 - 21/11for microfilm reading
 - 21/111{of roll films}
 - 21/113{Handling roll films}
 - 21/115{of microfiches}
 - 21/116{Handling microfiches}
 - 21/118{Reader-printers}
 - 21/12adapted for projection of either still pictures or
motion pictures ([prolonged exhibition of single
frame G03B 21/38](#))
 - 21/13Projectors for producing special effects at the edges
of picture, e.g. blurring
 - 21/132Overhead projectors, i.e. capable of projecting hand-
writing or drawing during action ([epidiascopic
projectors G03B 21/08](#))
 - 21/134Projectors combined with typing apparatus or with
printing apparatus
 - 21/14Details
- WARNING**
- Groups [G03B 21/142](#) - [G03B 21/147](#) are
incomplete pending reclassification of
documents from group [G03B 21/14](#).
- Until reclassification is complete, groups
[G03B 21/14](#) and [G03B 21/142](#) - [G03B 21/147](#)
should be considered in order to perform a
complete search.
- 21/142{Adjusting of projection optics}
 - 21/145{Housing details, e.g. position adjustments
thereof}
 - 21/147{Optical correction of image distortions, e.g.
keystone}
 - 21/16Cooling; Preventing overheating
 - 21/18Fire preventing or extinguishing
 - 21/20Lamp houses ([condensers per se G02B](#))
 - 21/2006{characterised by the light source}
 - 21/2013{Plural light sources}
 - 21/202{Incandescent light sources}
 - 21/2026{Gas discharge type light sources, e.g. arcs}
 - 21/2033{LED or laser light sources}
 - 21/204{using secondary light emission, e.g.
luminescence or fluorescence ([using
different colours G03B 33/00](#); if related to
video signals [H04N 9/3197](#))}
 - 21/2046{Positional adjustment of light sources}
 - 21/2053{Intensity control of illuminating light
([controlled by video signal processing
H04N 5/74](#) or [H04N 9/31](#))}
 - 21/206{Control of light source other than position or
intensity}
 - 21/2066{Reflectors in illumination beam ([in projection
beam G03B 21/28](#))}
 - 21/2073{Polarisers in the lamp house ([peculiar
to electronic spatial light modulators
H04N 9/3197](#))}
 - 21/208{Homogenising, shaping of the illumination
light}
 - 21/2086{Security or safety means in lamp houses}
 - 21/2093{Details of lamp houses not provided in groups
[G03B 21/2006](#) - [G03B 21/2086](#)}
 - 21/22Soundproof bodies
 - 21/26Projecting separately subsidiary matter
simultaneously with main image ([light pointers
G02B 27/20](#))
 - 21/28Reflectors in projection beam {(in illumination
beam [G03B 21/2066](#))}
 - 21/30adapted to collapse or fold, e.g. for portability
 - 21/32Details specially adapted for motion-picture
projection ([with film moving continuously
through the gate G03B 41/02](#))
 - 21/321{Holders for films, e.g. reels, cassettes,
spindles}
 - 21/323{Cassettes ([G03B 21/326](#), [G03B 21/328](#) take
precedence; for containing light-sensitive
material [G03B 17/265](#))}
 - 21/325{Endless cassettes}
 - 21/326{Means for fixing the film on the axis of a
reel or spindle}
 - 21/328{Means for fixing the film on the periphery
of a reel}
 - 21/34Change-over arrangements
 - 21/36Fades, dissolves, or wipes
 - 21/38Prolonged exhibition of single frame
 - 21/40Eliminating or reducing effect of flicker
 - 21/42Preventing damage to film due to abnormal
operation of projector
 - 21/43Driving mechanisms
 - 21/44Mechanisms transmitting motion to film-
strip feed; Mechanical linking of shutter
and intermittent feed ([film-strip per se
G03B 1/00](#))
 - 21/46affording adjustment for framing
 - 21/48for altering frame speed; for regulating
constancy of film speed
 - 21/50Control devices operated by the film strip
during the run ([controlling or regulating speed
G03B 21/48](#))
 - 21/52by prepared film
 - 21/53Means for automatic focusing, e.g. to compensate
thermal effects ([automatic focusing in general
G02B 7/09](#); systems for automatic generation of
focusing signals [G02B 7/28](#))
 - 21/54Accessories
 - 21/56Projection screens
 - 21/562{Screens moving during projection
([G03B 21/58](#) - [G03B 21/62](#) take precedence)}
 - 21/565{Screens allowing free passage of sound
([G03B 21/58](#) - [G03B 21/62](#) take precedence)}
 - 21/567{for colour projection ([G03B 21/58](#),
[G03B 21/60](#) take precedence)}
 - 21/58collapsible, e.g. foldable; of variable area
 - 21/585Inflatable screens
- WARNING**
- Group [G03B 21/585](#) is incomplete
pending reclassification of documents
from group [G03B 21/58](#).
- Until reclassification is complete, groups
[G03B 21/58](#) and [G03B 21/585](#) should be
considered in order to perform a complete
search.
- 21/60characterised by the nature of the surface
 - 21/602Lenticular screens ([G03B 21/625](#) takes
precedence)

- 21/604 Polarised screens
 21/606 for relief projection
 21/608 Fluid screens
- WARNING**
- Group [G03B 21/608](#) is incomplete pending reclassification of documents from group [G03B 21/60](#).
- Until reclassification is complete, groups [G03B 21/60](#) and [G03B 21/608](#) should be considered in order to perform a complete search.
- 21/62 Translucent screens
 21/625 Lenticular translucent screens
 21/64 . . Means for mounting individual pictures to be projected, e.g. frame for transparency
- 23/00 Devices for changing pictures in viewing apparatus or projectors (film-strip handling [G03B 1/00](#); direct viewers [per se G02B](#))**
- NOTE**
- For the purposes of this group the term "picture" denotes any flat representation, whether transparent or not, e.g. produced by photography, writing or printing
- 23/02 . in which a picture is removed from a stock and returned to the same stock or another one; Magazines therefor
 23/04 . . with linear movement
 23/042 . . . {whereby the picture is not returned to the same stock after projection}
 23/044 . . . {whereby the picture is returned to the same stock}
 23/046 . . . {Picture changing devices}
 23/048 . . . {with horizontally sliding mechanism}
 23/06 . . with rotary movement
 23/08 . in which pictures are attached to a movable carrier
 23/10 . . drum or disc carrier
 23/105 . . . {disc carriers}
 23/12 . . linear strip carrier
 23/125 . . . {the pictures being attached to a chain or linked up to form a chain}
 23/14 . Carriers operable to move pictures into, and out of, the projection or viewing position and carrying one or two pictures only in a removable manner ([G03B 23/18](#) takes precedence) {also other devices not provided with a stock, e.g. chutes}
 23/18 . with fade-in and fade-out effects
- 25/00 Viewers, other than projection viewers, giving motion-picture effects by persistence of vision, e.g. zoetrope (high-speed photography [G03B 39/00](#))**
- 25/02 . with interposed lenticular or line screen
- 27/00 Photographic printing apparatus (film-strip handling [G03B 1/00](#))**
- 27/02 . Exposure apparatus for contact printing
 27/04 . . Copying apparatus without a relative movement between the original and the light source during exposure, e.g. printing frame, printing box
 27/06 . . . for automatic repeated copying of the same original
- 27/08 . . . for automatic copying of several originals one after the other, e.g. for copying cinematograph film
 27/10 . . Copying apparatus with a relative movement between the original and the light source during exposure
 27/12 . . . for automatic repeated copying of the same original
 27/14 . . Details
 27/16 . . . Illumination arrangements, e.g. positioning of lamps, positioning of reflectors ([controlling the exposure G03B 27/72](#))
 27/18 . . . Maintaining or producing contact pressure between original and light-sensitive material
 27/20 by using a vacuum or fluid pressure
 27/22 by stretching over a curved surface
 27/24 . . . Separating the original from the print
 27/26 . . . Cooling
 27/28 . . . Edge-masking devices
 27/30 . . . adapted to be combined with processing apparatus ([processing apparatus per se G03D](#))
 27/303 {Gas processing (gas processing apparatus [G03D 7/00](#))}
 27/306 {Heat development (heat development apparatus [G03D 13/002](#))}
 27/32 . Projection printing apparatus, e.g. enlarger, copying camera
 27/323 . . {Copying cameras ([G03B 27/34 - G03B 27/70](#) take precedence)}
 27/326 . . {Enlargers ([G03B 27/34 - G03B 27/70](#) take precedence)}
 27/34 . . Means for automatic focusing therefor ([systems for automatic generation of focusing signals G02B 7/28](#))
 27/36 . . . by mechanical connections, e.g. by cam, by linkage
 27/38 embodying screws with non-uniform pitch
 27/40 adapted for use with lenses of different focal length
 27/42 . . for automatic sequential copying of the same original ([G03B 27/34](#), [G03B 27/53](#) take precedence)
 27/423 . . . {in copying cameras}
 27/426 . . . {in enlargers}
 27/44 . . for multiple copying of the same original at the same time ([G03B 27/34](#), [G03B 27/53](#) take precedence)
 27/46 . . for automatic sequential copying of different originals, e.g. enlargers, roll film printers ([G03B 27/34](#), [G03B 27/50](#), [G03B 27/53](#) take precedence)
 27/462 . . . {in enlargers, e.g. roll film printers}
 27/465 . . . at different positions of the same strip, e.g. microfilm
 27/47 . . . at different positions of the same sheet, e.g. microfiche
 27/475 . . . copying cinematographic film ([G03B 27/48](#) takes precedence)
 27/48 . . . with original in the form of a film strip moving continuously and compensation for consequent image movement

- 27/50 . . with slit or like diaphragm moving over original for progressive exposure ([G03B 27/34 takes precedence](#) ; projection optics [per se G03B 27/525](#)))
- 27/52 . . Details
- 27/521 . . . {Arrangements for applying a supplementary information onto the sensitive material, e.g. coding (producing marks on the film in cameras [G03B 17/24](#))}
- 27/522 . . . {Projection optics (for electro-photographic copiers in particular [G03G 15/04](#))}
- 27/523 {for full time exposure}
- 27/525 {for slit exposure}
- 27/526 {in which the projection optics move}
- 27/527 {as a whole in a translatory movement}
- 27/528 {in which the projection optics remain stationary}
- 27/53 . . . Automatic registration or positioning of originals with respect to each other or the photosensitive layer (within photo-mechanical production of textured or patterned surfaces, e.g. of integrated circuits, [G03F 9/00](#))
- 27/54 . . . Lamp housings; Illuminating means (controlling the exposure [G03B 27/72](#))
- 27/542 {for copying cameras, reflex exposure lighting}
- 27/545 {for enlargers}
- 27/547 {colour mixing heads}
- 27/56 . . . Mounting enlarger head on column {Mounting reproduction camera on column}
- 27/58 . . . Baseboards, masking frames, or other holders for the sensitive material ([G03B 27/53 takes precedence](#) ; for electrophotographic copiers [G03G 15/65](#)))
- 27/581 {in copying cameras ([G03B 27/60 takes precedence](#))}
- 27/582 {Baseboards, easels}
- 27/583 {Handling microfiche}
- 27/585 {Handling cut photosensitive sheets}
- 27/586 {Supply stacks; Peeling off}
- 27/587 {Handling photosensitive webs ([G03B 1/00 takes precedence](#))}
- 27/588 {Supply rolls; Cutting arrangements}
- 27/60 using a vacuum or fluid pressure
- 27/62 . . . Holders for the original ([G03B 27/53 takes precedence](#) ; for electrophotographic copiers [G03G 15/60](#)))
- 27/6207 {in copying cameras}
- 27/6214 {Copy boards}
- 27/6221 {Transparent copy platens}
- 27/6228 {Platen covers}
- 27/6235 {Reciprocating copy platens}
- 27/6242 {Masks; Overlays; Transparent carriers}
- 27/625 {Apparatus which relate to the handling of originals, e.g. presence detectors, inverters}
- 27/6257 {Arrangements for moving an original once or repeatedly to or through an exposure station}
- 27/6264 {Arrangements for moving several originals one after the other to or through an exposure station}
- 27/6271 {in enlargers}
- 27/6278 {Handling single frame negatives}
- 27/6285 {Handling strips ([G03B 1/00 takes precedence](#))}
- 27/6292 {Handling microfiche}
- 27/64 using a vacuum or fluid pressure
- 27/66 . . . specially adapted for holding half-tone screens
- 27/68 . . . Introducing or correcting distortion, e.g. in connection with oblique projection
- 27/70 . . . Reflectors in printing beam
- 27/72 . Controlling or varying light intensity, spectral composition, or exposure time in photographic printing apparatus (exposure meters [per se G01J](#); control of light intensity in general [G05D 25/00](#))
- 27/722 . . {when the reproduction scale is changed}
- 27/725 . . {Optical projection devices wherein the contrast is controlled electrically (e.g. cathode ray tube masking)}
- 27/727 . . {Optical projection devices wherein the contrast is controlled optically (e.g. uniform exposure, two colour exposure on variable contrast sensitive material)}
- 27/73 . . Controlling exposure by variation of spectral composition, e.g. multicolor printers
- 27/735 . . . {in dependence upon automatic analysis of the original}
- 27/74 . . Positioning exposure meters in the apparatus
- 27/80 . . in dependence upon automatic analysis of the original ([G03B 27/73 takes precedence](#))
- 29/00** **Combinations of cameras, projectors, or photographic printing apparatus with non-photographic non-optical apparatus, e.g. clocks, weapons; Cameras having the shape of other objects** (combinations with flash apparatus [G03B 15/03](#); combinations with instruments for medical examination [A61B 1/04](#), [A61B 3/14](#); combinations with surveying instruments [G01C](#); combinations with core or moderator structure of nuclear reactors [G21C 17/08](#); structural combinations with electric discharge tubes [H01J 5/16](#), [H01J 29/89](#), [H01J 37/22](#))

Special techniques

- 31/00** **Associated working of cameras or projectors with sound recording or reproducing means** (record carriers characterised by the selection of the material and comprising cinematographic film and magnetic track [G11B 5/633](#))
- 31/02 . in which sound track is on a moving-picture film
- 31/04 . in which sound track is not on, but is synchronised with, a moving-picture film
- 31/06 . in which sound track is associated with successively-shown still pictures
- 31/08 . with fade-in and fade-out effects
- 33/00** **Colour photography, other than mere exposure or projection of a colour film** (printing apparatus [G03B 27/00](#); stereoscopic colour photography [G03B 35/00](#))
- 33/02 . by two-colour separation records, e.g. red-aspect and white complete records; using Land effect
- 33/04 . by four or more separation records
- 33/06 . by additive-colour projection apparatus
- 33/08 . Sequential recording or projection ([G03B 33/02](#), [G03B 33/04](#), [G03B 33/06 take precedence](#))

33/10	• Simultaneous recording or projection (G03B 33/02 , G03B 33/04 G03B 33/06 take precedence)	41/10	• . . . with oscillating reflecting member
33/12	• . using beam-splitting or beam-combining systems, e.g. dichroic mirrors	41/12	• . . . with oscillating transmitting member
33/14	• . using lenticular screens (integral with film G03C)	41/14	• . Overcoming image movement by brief flashes of light
33/16	• . using colour-pattern screens (integral with film G03C)		
35/00	Stereoscopic photography (panoramic or widescreen systems G03B 37/00 ; photogrammetry G01C)	42/00	Obtaining records using waves other than optical waves; Visualisation of such records by using optical means (investigating or analysing materials using electromagnetic or sonic waves G01N ; using radar, sonar or analogous techniques G01S ; {holography G03H })
35/02	• by sequential recording		
35/04	• . with movement of beam-selecting members in a system defining two or more viewpoints	42/02	• using X-rays (measurement of X-radiation G01T ; X-ray apparatus, circuits therefor H05G 1/00)
35/06	• . with axial movement of lens or gate between exposures	42/021	• . {Apparatus for direct X-ray cinematography (circuit arrangements for obtaining a series of X-ray photographs or for X-ray cinematography H05G 1/60)}
35/08	• by simultaneous recording		
35/10	• . having single camera with stereoscopic-base-defining system	42/023	• . . . {Apparatus for indirect X-ray cinematography, i.e. by taking pictures on ordinary film from the images on the fluorescent screen (by transforming the picture information intermediately into electrical signals G03B 27/725)}
35/12	• . involving recording of different viewpoint images in different colours on a colour film		
35/14	• Printing apparatus specially adapted for conversion between different types of record (G03B 42/08 takes precedence)	42/025	• . {Positioning or masking the X-ray film cartridge in the radiographic apparatus}
35/16	• by sequential viewing	42/026	• . {for obtaining three-dimensional pictures}
35/18	• by simultaneous viewing	42/028	• . {Industrial applications}
35/20	• . using two or more projectors	42/04	• . Holders for X-ray films
35/22	• . using single projector with stereoscopic-base-defining system	42/042	• . . . {for dental applications (see also A61B 6/14); (individual packages for X-ray film G03C 3/003)}
35/24	• . using apertured or refractive resolving means on screens or between screen and eye		
35/26	• . using polarised or coloured light separating different viewpoint images	42/045	• . . . {apparatus for loading or unloading the holders}
37/00	Panoramic or wide-screen photography; Photographing extended surfaces, e.g. for surveying; Photographing internal surfaces, e.g. of pipe	42/047	• . . . {provided with marking means}
		42/06	• using ultrasonic, sonic or infrasonic waves (measurement of ultrasonic, sonic or infrasonic waves G01H)
37/005	• {Photographing internal surfaces, e.g. of pipe, (G03B 37/02 - G03B 37/06 take precedence; instruments for performing medical examinations of cavities or tubes of the body by photographic inspection A61B 1/00)}	42/08	• Visualising the records by optical means (optical means using spatial filters G02B 27/46 ; optical systems for visualising phase objects G02B 27/50)
37/02	• with scanning movement of lens or cameras	43/00	Testing correct operation of photographic apparatus or parts thereof (measuring specific variables G01)
37/04	• with cameras or projectors providing touching or overlapping fields of view		
37/06	• involving anamorphosis (G03B 37/02 , G03B 37/04 take precedence)	43/02	• Testing shutters (measuring time intervals G04F)
39/00	High-speed photography		
39/005	• {using image converters or amplifiers}	2205/00	Adjustment of optical system relative to image or object surface other than for focusing
39/02	• using stationary plate or film (G03B 39/06 takes precedence)	2205/0007	• Movement of one or more optical elements for control of motion blur (imaging systems in general using optical elements for stabilisation of the position of the image G02B 27/64)
39/04	• using moving plate or film (G03B 39/06 takes precedence)		
39/06	• using light-guides for transferring image frame or elements thereof into different array, e.g. into a line	2205/0015	• . by displacing one or more optical elements normal to the optical axis
41/00	Special techniques not covered by groups G03B 31/00 - G03B 39/00; Apparatus therefor	2205/0023	• . by tilting or inclining one or more optical elements with respect to the optical axis
41/02	• using non-intermittently running film	2205/003	• . by a prism with variable angle or the like
41/023	• . {combined with shutter}	2205/0038	• . by displacing the image plane with respect to the optical axis (in case of an electronic image sensor H04N 5/23248)
41/026	• . {combined with slit}		
41/04	• . with optical compensator	2205/0046	• Movement of one or more optical elements for zooming (for optical zoom lenses in general G02B 7/10)
41/06	• . . with rotating reflecting member		
41/08	• . . with rotating transmitting member		

- 2205/0053 . Driving means for the movement of one or more optical element
- 2205/0061 . . using piezoelectric actuators
- 2205/0069 . . using electromagnetic actuators, e.g. voice coils
- 2205/0076 . . using shape memory alloys
- 2205/0084 . . using other types of actuators
- 2205/0092 . Other types of adjustments, not provided for in groups [G03B 2205/0007](#) - [G03B 2205/0084](#), e.g. for collapsing
- 2206/00 Systems for exchange of information between different pieces of apparatus, e.g. for exchanging trimming information, for photo finishing**
- 2206/002 . using detachable memory means
- 2206/004 . using markings on the photographic material, e.g. to indicate pseudo-panoramic exposure
- 2206/006 . . of the bar-code type
- 2206/008 . using holders for the photographic material
- 2207/00 Control of exposure by setting shutters, diaphragms, or filters separately or conjointly**
- 2207/005 . involving control of motion blur
- 2213/00 Viewfinders; Focusing aids for cameras; Means for focusing for cameras; Autofocus systems for cameras**
- 2213/02 . Viewfinders
- 2213/025 . . Sightline detection
- 2215/00 Special procedures for taking photographs; Apparatus therefor**
- 2215/05 . Combinations of cameras with electronic flash units
- 2215/0503 . . Built-in units
- 2215/0507 . . . Pop-up mechanisms
- 2215/051 with movable reflector, e.g. change of illumination angle or illumination direction
- 2215/0514 . . Separate unit
- 2215/0517 . . . Housing
- 2215/0521 movable housing, e.g. bounce-light
- 2215/0525 Reflector
- 2215/0528 movable reflector, e.g. change of illumination angle or illumination direction
- 2215/0532 Flashtube mounting
- 2215/0535 Built-in diffusor
- 2215/0539 Ringflash
- 2215/0542 watertight
- 2215/0546 modular
- 2215/055 Clamp-on device, e.g. filter
- 2215/0553 with second integrated flash
- 2215/0557 . . . Multiple units, e.g. slave-unit
- 2215/056 . . . Connection with camera, e.g. adapter
- 2215/0564 . . characterised by the type of light source
- 2215/0567 . . . Solid-state light source, e.g. LED, laser
- 2215/0571 . . . With second light source
- 2215/0575 . . . Ring shaped lighting arrangements
- 2215/0578 . . . Flashtube mounting
- 2215/0582 . . Reflectors
- 2215/0585 . . . Movable reflectors, e.g. change of illumination angle or direction
- 2215/0589 . . Diffusors, filters or refraction means
- 2215/0592 . . . installed in front of light emitter
- 2215/0596 . . Combinations of cameras with electronic flash units not provided for in [G03B 2215/0564](#) - [G03B 2215/0592](#)
- 2217/00 Details of cameras or camera bodies; Accessories therefor**
- 2217/002 . Details of arrangement of components in or on camera body
- 2217/005 . Blur detection
- 2217/007 . Details of energy supply or management
- 2217/18 . Signals indicating condition of a camera member or suitability of light
- 2217/185 . . providing indication that the picture may be blurred
- 2217/24 . with means for separately producing marks on the film
- 2217/241 . . with means for producing composite exposures, e.g. exposing an image and a border, producing identity cards
- 2217/242 . . Details of the marking device
- 2217/243 . . . Optical devices
- 2217/244 . . . Magnetic devices
- 2217/245 . . . Mechanical devices
- 2217/246 . . Details of the markings
- 2217/247 . . . Bar codes
- 2217/248 . . with means for masking
- 2217/26 . Holders for containing light-sensitive material and adapted to be inserted within the camera
- 2217/261 . . Details of spools
- 2217/263 . . Details of exposure status indicators; Double exposure prevention
- 2217/265 . . Details of light-proofing
- 2217/266 . . Thrust-type cartridges
- 2217/268 . . Unloading the cartridge from the camera; Loading the cartridge into the camera
- 2219/00 Cameras**
- 2219/02 . Still-picture cameras
- 2219/04 . . Roll-film cameras
- 2219/045 . . . adapted for unloading the film in the processing laboratory, e.g. disposable, reusable or recyclable cameras
- 2227/00 Photographic printing apparatus**
- 2227/005 . Matrix print; Index print
- 2227/32 . Projection printing apparatus, e.g. enlarging apparatus, copying camera
- 2227/325 . . Microcapsule copiers