

SECTION G — PHYSICS

G03 PHOTOGRAPHY; CINEMATOGRAPHY; ANALOGOUS TECHNIQUES USING WAVES OTHER THAN OPTICAL WAVES; ELECTROGRAPHY; HOLOGRAPHY**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; photosensitive materials or processes for photographic purposes G03C; apparatus for processing exposed photographic materials G03D) [4]**Note(s)**

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.

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DETAILS

Common to at least two of cameras, projectors and printers.....	1/00-5/00
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Details common to at least two of the following types of apparatus: cameras, projectors, printers

1/00	Film-strip handling of general interest for cameras, projectors or printers
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

G03B

- 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 of general interest for cameras, projectors or printers (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 of general interest for cameras, projectors or printers

- 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

Details common to cameras

7/00 Control of exposure by setting shutters, diaphragms, or filters separately or conjointly (measuring intensity of light G01J; control of exposure in television cameras by means of circuitry for compensating for variation in the brightness of the object H04N 5/235)

- 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 pointer 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 by response to built-in light-sensitive device to the intensity of light received by the camera
- 7/081 • • Analogue circuits [3]
- 7/083 • • • for control of exposure time [3]
- 7/085 • • • for control of aperture [3]
- 7/087 • • • for control of both exposure time and aperture [3]
- 7/089 • • • for storage of exposure value in mirror reflex cameras [3]
- 7/091 • • Digital circuits [3]
- 7/093 • • • for control of exposure time [3]
- 7/095 • • • for control of aperture [3]

- 7/097 • • • for control of both exposure time and aperture [3]
- 7/099 • • Arrangement of photoelectric elements in or on the camera [3]
- 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
- 7/16 • in accordance with both the intensity of the flash source and the distance of the flash source from object, e.g. in accordance with "guide number" of flash bulb and the focusing of the camera
- 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 [3]
- 7/26 • Power supplies; Circuitry or arrangement to switch on the power source; Circuitry to check the power source voltage [3]
- 7/28 • Circuitry to measure or to take account of the object contrast [3]

9/00 Exposure-making shutters; Diaphragms

- 9/02 • Diaphragms [2]
- 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) [2]
- 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	13/34	• • • Power focusing [5]
9/36	• • Sliding rigid plate	13/36	• • • Autofocus systems [5]
9/38	• • • Single rigid plate with multiple slots or other apertures	15/00	Special procedures for taking photographs; Apparatus therefor
9/40	• • • Double plate	15/02	• Illuminating scene
9/42	• • • • with adjustable slot; with mechanism controlling relative movement of plates to form slot	15/03	• • Combinations of cameras with lighting apparatus; Flash units
9/44	• • • Curved track and plate	15/035	• • • Combinations of cameras with incandescent lamps
9/46	• • Flap shutters pivoting about axis in plane of flap	15/04	• • • Combinations of cameras with non-electronic flash apparatus; Non-electronic flash units (light sources using a charge of combustible material F21K 5/00; ignition circuits H05B 43/02)
9/48	• • • Double flap	15/05	• • • Combinations of cameras with electronic flash apparatus; Electronic flash units (discharge lamps <i>per se</i> H01J; circuit arrangements H05B 41/00)
9/50	• • • Louvre type	15/06	• • Special arrangements of screening, diffusing, or reflecting devices, e.g. in studio
9/52	• • Barrel shutters	15/07	• • • Arrangements of lamps in studios
9/54	• • Conical shutters; Rotating plate with axis of rotation inclined to optical axis of shutter	15/08	• Trick photography
9/58	• Means for varying duration of "open" period of shutter	15/10	• • using back-projection, i.e. blending artificial background with real foreground
9/60	• • by varying speed of movement of obturating members	15/12	• • using mirrors
9/62	• • by varying interval of time between end of opening movement and beginning of closing movement	15/14	• for taking photographs during medical operations
9/64	• Mechanism for delaying opening of shutter (separate from shutter G03B 17/38)	15/16	• for photographing the track of moving objects (high-speed photography G03B 39/00; recording tracks of nuclear particles G01T 5/00)
9/66	• Means for cocking shutter separate from means for releasing shutter	17/00	Details of cameras or camera bodies; Accessories therefor (lens hoods or caps G03B 11/04)
9/68	• • Cocking effected by movement of film	17/02	• Bodies
9/70	• with flash-synchronising contacts	17/04	• • collapsible, foldable, or extensible, e.g. book type (bellows for instruments in general G12B)
11/00	Filters or other obturators specially adapted for photographic purposes (filters <i>per se</i> G02B)	17/06	• • with exposure meters or other indicators built into body but not connected to other camera members
11/02	• Sky masks	17/08	• • Waterproof bodies or housings
11/04	• Hoods or caps for eliminating unwanted light from lenses, viewfinders, or focusing aids	17/10	• • Soundproof bodies
11/06	• • Lens caps for exposure making	17/12	• • with means for supporting objectives, supplementary lenses, filters, masks, or turrets
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 <i>per se</i> G01C 3/00; automatic focusing in general G02B 7/09; systems for automatic generation of focusing signals G02B 7/28) [5]	17/14	• • • interchangeably
13/02	• Viewfinders	17/16	• • for containing both motion-picture camera and still-picture camera
13/04	• • of direct-vision type, e.g. frame, sighting mark	17/17	• • with reflectors arranged in beam forming the photographic image, e.g. for reducing dimensions of camera
13/06	• • with lenses with or without reflectors	17/18	• Signals indicating condition of a camera member or suitability of light (indicating depth of field G03B 13/30)
13/08	• • • with reflected image of frame	17/20	• • visible in viewfinder
13/10	• • adjusting viewfinder field	17/22	• with means for cutting-off film
13/12	• • • to compensate for change of camera lens or size of picture	17/24	• with means for separately producing marks on the film, e.g. title, time of exposure
13/14	• • • to compensate for parallax due to short range	17/26	• Holders for containing light-sensitive material and adapted to be inserted within the camera (holders for X-ray films G03B 42/04) [2]
13/16	• • combined with focusing aids	17/28	• Locating light-sensitive material within camera
13/18	• Focusing aids	17/30	• • Locating spools or other rotatable holders of coiled film
13/20	• • Rangefinders coupled with focusing arrangements, e.g. adjustment of rangefinder automatically focusing camera	17/32	• • Locating plates or cut films
13/22	• • • coupling providing for compensation upon change of camera lens	17/34	• • • Changing plates or cut films
13/24	• • Focusing screens	17/36	• Counting number of exposures (of film strips G03B 1/66; counting mechanisms in general G06M)
13/26	• • • with magnifiers for inspecting image formed on screen	17/38	• Releasing-devices separate from shutter (integral with shutter G03B 9/08)
13/28	• • • Image-splitting devices		
13/30	• • indicating depth of field [5]		
13/32	• Means for focusing [5]		

- 17/40 • • with delayed or timed action
- 17/42 • Interlocking between shutter operation and advance of film or change of plate or cut-film
- 17/44 • 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 (carrying-cases A45C)
- 17/58 • • Attachments for converting cameras into reflex cameras

19/00 Cameras (details G03B 17/00)

- 19/02 • Still-picture 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 [4]

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; devices or systems producing a varying lighting effect F21S 10/00; optical projection comparators G01B 9/08; projection microscopes G02B 21/36)

- 21/02 • Multiple-film apparatus
- 21/04 • • Picture "juke-boxes"
- 21/06 • affording only episcopic projection
- 21/08 • affording epidiascopic projection
- 21/10 • Projectors with built-in or built-on screen (projection screens in general G03B 21/56)
- 21/11 • • for microfilm reading
- 21/12 • adapted for projection of either still pictures or motion pictures (prolonged exhibition of single frame G03B 21/38)

- 21/13 • Projectors for producing special effects at the edges of picture, e.g. blurring
- 21/132 • Overhead projectors, i.e. capable of projecting hand-writing or drawing during action (epidiascopic projectors G03B 21/08)
- 21/134 • Projectors combined with typing apparatus or with printing apparatus
- 21/14 • Details
- 21/16 • • Cooling; Preventing overheating
- 21/18 • • Fire preventing or extinguishing
- 21/20 • • Lamp housings (condensers per se G02B)
- 21/22 • • Soundproof bodies
- 21/26 • • Projecting separately subsidiary matter simultaneously with main image (light pointers G02B 27/20)
- 21/28 • • Reflectors in projection beam
- 21/30 • • adapted to collapse or fold, e.g. for portability
- 21/32 • • Details specially adapted for motion-picture projection (with film moving continuously through the gate G03B 41/02)
- 21/34 • • • Change-over arrangements
- 21/36 • • • Fades, dissolves, or wipes
- 21/38 • • • Prolonged exhibition of single frame
- 21/40 • • • Eliminating or reducing effect of flicker
- 21/42 • • • Preventing damage to film due to abnormal operation of projector
- 21/43 • • • Driving mechanisms
- 21/44 • • • Mechanisms transmitting motion to film-strip feed; Mechanical linking of shutter and intermittent feed (film-strip feed per se G03B 1/00)
- 21/46 • • • • affording adjustment for framing
- 21/48 • • • • for altering frame speed; for regulating constancy of film speed
- 21/50 • • • Control devices operated by the film strip during the run (controlling or regulating speed G03B 21/48)
- 21/52 • • • • by prepared film
- 21/53 • • Means 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) [5]
- 21/54 • Accessories
- 21/56 • • Projection screens
- 21/58 • • • collapsible, e.g. foldable; of variable area
- 21/60 • • • characterised by the nature of the surface, e.g. lenticular, fluid
- 21/62 • • • • translucent
- 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 G02B)

Note(s)

In this group, the following term is used with the meaning indicated:

- "picture" means 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
- 23/06 • • with rotary movement
- 23/08 • in which pictures are attached to a movable carrier

- 23/10 • • drum or disc carrier
- 23/12 • • linear strip carrier
- 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) [4]
- 23/18 • with fade-in and fade-out effects [4]
- 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)
- 27/32 • Projection printing apparatus, e.g. enlarger, copying camera
- 27/34 • • Means for automatic focusing therefor (systems for automatic generation of focusing signals G02B 7/28; means for automatic focusing for photomechanical production G03F 7/207) [4]
- 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) [4]
- 27/44 • • for multiple copying of the same original at the same time (G03B 27/34, G03B 27/53 take precedence) [4]
- 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) [4]
- 27/465 • • • at different positions of the same strip, e.g. microfilm [4]
- 27/47 • • • at different positions of the same sheet, e.g. microfiche [4]
- 27/475 • • • copying cinematographic film (G03B 27/48 takes precedence) [4]
- 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) [4]
- 27/52 • • Details
- 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) [4]
- 27/54 • • • Lamp housings; Illuminating means (controlling the exposure G03B 27/72)
- 27/56 • • • Mounting enlarger head on column
- 27/58 • • • Baseboards, masking frames, or other holders for the sensitive material (G03B 27/53 takes precedence) [4]
- 27/60 • • • • using a vacuum or fluid pressure
- 27/62 • • • Holders for the original (G03B 27/53 takes precedence) [4]
- 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)
- 27/73 • • Controlling exposure by variation of spectral composition, e.g. multicolor printers [3]
- 27/74 • • Positioning exposure meters in the apparatus
- 27/80 • • in dependence upon automatic analysis of the original (G03B 27/73 takes precedence) [3]
- 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 of cavities or tubes of the body A61B 1/04; arrangements specially adapted for eye photography 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 [4]

- 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)
 - 33/12 • • using beam-splitting or beam-combining systems, e.g. dichroic mirrors
 - 33/14 • • using lenticular screens (integral with film G03C)
 - 33/16 • • using colour-pattern screens (integral with film G03C)
- 35/00 Stereoscopic photography** (panoramic or wide-screen systems G03B 37/00; photogrammetry G01C)
- 35/02 • by sequential recording
 - 35/04 • • with movement of beam-selecting members in a system defining two or more viewpoints
 - 35/06 • • with axial movement of lens or gate between exposures
 - 35/08 • by simultaneous recording
 - 35/10 • • having single camera with stereoscopic-base-defining system
 - 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) [4]
 - 35/16 • by sequential viewing
 - 35/18 • by simultaneous viewing
 - 35/20 • • using two or more projectors
 - 35/22 • • using single projector with stereoscopic-base-defining system
 - 35/24 • • using apertured or refractive resolving means on screen or between screen and eye
 - 35/26 • • using polarised or coloured light for separating different viewpoint images
- 37/00 Panoramic or wide-screen photography; Photographing extended surfaces, e.g. for surveying; Photographing internal surfaces, e.g. of pipe**

- 37/02 • with scanning movement of lens or camera
 - 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)
- 39/00 High-speed photography**
- 39/02 • using stationary plate or film (G03B 39/06 takes precedence)
 - 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
- 41/00 Special photographic techniques not covered by groups G03B 31/00-G03B 39/00; Apparatus therefor [2]**
- 41/02 • using non-intermittently-running film
 - 41/04 • • with optical compensator
 - 41/06 • • • with rotating reflecting member
 - 41/08 • • • with rotating transmitting member
 - 41/10 • • • with oscillating reflecting member
 - 41/12 • • • with oscillating transmitting member
 - 41/14 • • Overcoming image movement by brief flashes of light
- 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) [4]
- 42/02 • using X-rays (measurement of X-radiation G01T; X-ray apparatus, circuits therefor H05G 1/00) [4]
 - 42/04 • • Holders for X-ray films [4]
 - 42/06 • using ultrasonic, sonic or infrasonic waves (measurement of ultrasonic, sonic or infrasonic waves G01H) [4]
 - 42/08 • Visualisation of records by optical means (optical systems using spatial filters G02B 27/46; optics for phase object visualisation G02B 27/50) [4]
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- 43/00 Testing correct operation of photographic apparatus or parts thereof** (measuring specific variables G01)
- 43/02 • Testing shutters (measuring time intervals G04F)