

Compilation of Changes to the CPC Scheme Between 2021.02 and 2021.05

Presentation Details

Entries for new symbols and headings:	<i>Black text in italics</i>
Entries for existing symbols and headings:	
—text insertions:	<i>Green text in italics with yellow background</i>
—text deletions:	Red strikethrough text with grey background
Entries for deleted symbols and headings:	Black strikethrough text
<ul style="list-style-type: none"> • In cases when the originating project cannot be found, "N/A" is given for the Project information (e.g. the change could be due to an Editorial Correction). • Projects ending in "-F" indicate finalisation after reclassification was completed. 	

Project: MP0455 (A23B)

M	A23B	PRESERVING, e.g. BY CANNING, MEAT, FISH, EGGS, FRUIT, VEGETABLES, EDIBLE SEEDS; CHEMICAL RIPENING OF FRUIT OR VEGETABLES; THE PRESERVED, RIPENED, OR CANNED PRODUCTS (preserving foodstuffs in general A23L 3/00; preserving in general A61L; applying food preservatives in packages B65D 81/28)
		<u>WARNING</u> {In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.}
U	A23B 4/00	General methods for preserving meat, sausages, fish or fish products
U	A23B 4/14	• Preserving with chemicals not covered by groups A23B 4/02 or A23B 4/12
U	A23B 4/18	• • in the form of liquids or solids (apparatus therefor A23B 4/26 , A23B 4/32)
M	A23B 4/20	• • • Organic compounds; Microorganisms; Enzymes (acid fermentation A23B 4/12)
M	A23B 5/00	Preservation of eggs or egg products (preserving dough or bakery products A21D)
U	A23B 7/00	Preservation or chemical ripening of fruit or vegetables
U	A23B 7/14	• Preserving or ripening with chemicals not covered by groups A23B 7/08 or A23B 7/10
M	A23B 7/144	• • in the form of gases, e.g. fumigation; Compositions or apparatus therefor {{cooling without control of atmosphere composition A23B 7/04}}
U	A23B 7/153	• • in the form of liquids or solids
M	A23B 7/154	• • • Organic compounds; Microorganisms; Enzymes (acid fermentation A23B 7/10)

Project: MP0455 (A23F)

M	A23F	COFFEE; TEA; THEIR SUBSTITUTES; MANUFACTURE, PREPARATION, OR INFUSION THEREOF (coffee or tea pots A47G 19/14; tea infusers A47G 19/16; apparatus for making beverages, e.g. coffee or tea, A47J 31/00; coffee mills A47J 42/00)
		<u>WARNING</u> {In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.}
U	A23F 5/00	Coffee; Coffee substitutes; Preparations thereof
U	A23F 5/24	• Extraction of coffee; Coffee extracts (with reduced alkaloid content A23F 5/20); Making instant coffee (methods of roasting extracted coffee A23F 5/06)

- M A23F 5/26 • • Extraction of water-soluble constituents ~~{{(A23F 5/246 takes precedence); isolation of coffee flavour or coffee oil A23F 5/48}}~~

Project: MP0455 (A23J)

- M A23J **PROTEIN COMPOSITIONS FOR FOODSTUFFS; WORKING-UP PROTEINS FOR FOODSTUFFS; PHOSPHATIDE COMPOSITIONS FOR FOODSTUFFS**
~~(fodder A23K; protein compositions or phosphatide compositions for pharmaceuticals A61K; phosphatides per se C07F 9/10; proteins per se C07K)~~

WARNING

{In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.}

- M A23J 1/00 **Obtaining protein compositions for foodstuffs; Bulk opening of eggs and separation of yolks from whites** ~~(preparation of glue C09H)~~
- M A23J 1/04 • from fish or other sea animals ~~(for animal feeding-stuff A23K 10/20)~~
- M A23J 1/06 • from blood ~~(for animal feeding-stuff A23K 10/24; plastic materials from blood C08H 1/00)~~

Project: MP0455 (A23L)

- U A23L 2/00 **Non-alcoholic beverages; Dry compositions or concentrates therefor; Their preparation (soup concentrates A23L 23/10; preparation of non-alcoholic beverages by removal of alcohol {C12H 3/00})**
- M A23L 2/70 • Clarifying or fining of non-alcoholic beverages; Removing unwanted matter ~~(purifying water C02F, e.g. by ion-exchange C02F 1/42)~~
- M A23L 3/00 **Preservation of foods or foodstuffs, in general, e.g. pasteurising, sterilising, specially adapted for foods or foodstuffs** ~~(preservation of flour or bread A21D; processes specially adapted for particular foods or foodstuffs, see the relevant groups for the foods or foodstuffs in A23; preserving foods or foodstuffs in association with packaging B65B 55/00; preservation of alcoholic beverages C12H)~~

NOTE

In groups A23L 3/3472 - A23L 3/3562, the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place. {This Note corresponds to IPC Note (1) relating to A23L 3/3472 - A23L 3/3562}

Project: RP0327 (A61B)

- U A61B 17/00 **Surgical instruments, devices or methods, e.g. tourniquets** ~~(A61B 18/00 takes precedence; contraceptive devices, pessaries, or applicators therefor A61F 6/00; eye surgery A61F 9/007; ear surgery A61F 11/00)~~
- A61B 17/00008 • {Vein tendon strippers (tube strippers A61M 1/0078 A61M 1/83)}
- M A61B 17/32 • Surgical cutting instruments ~~{{(A61B 18/042 takes precedence; suture cutters A61B 17/0467; instruments for ligaturing or cutting A61B 17/128; instruments for rupturing the amniotic membrane A61B 17/4208; specially adapted knives for eye surgery A61F 9/0133}}~~

WARNING

Groups A61B 17/32, A61B 17/320016, A61B 17/32002, A61B 17/320036, A61B 17/320068, A61B 17/320092, A61B 17/3201, A61B 17/3203, A61B 17/32037, A61B 17/3205, A61B 17/32053, A61B 17/32056, A61B 17/3207, A61B 17/320708, A61B 17/320725, A61B 17/32075, A61B 17/320758 and A61B 17/320783 are incomplete pending reclassification

of documents from groups [A61M 1/84](#), [A61M 1/842](#), [A61M 1/85](#) and [A61M 1/86](#).

All groups listed in this Warning should be considered in order to perform a complete search.

Project: RP0550 (A61B)

- | | | |
|---|--------------|---|
| M | A61B 17/56 | <ul style="list-style-type: none"> • Surgical instruments or methods for treatment of bones or joints; Devices specially adapted therefor-{{(orthopaedic methods or devices for non-surgical treatment of bones or joints A61F 5/00)}} |
| | | <p><u>NOTES</u></p> <p>1. Documents concerning exclusively surgical methods are classified only in this group.</p> <p>2. Surgical instruments or devices are classified only in the relevant subgroups</p> |
| M | A61B 17/58 | <ul style="list-style-type: none"> • • for osteosynthesis, e.g. bone plates, screws, {{, setting implements}} or the like (A61B 17/14, A61B 17/16 take precedence; {{splints A61B 5/01; traction bandages A61F 13/10}}) |
| M | A61B 17/68 | <ul style="list-style-type: none"> • • • Internal fixation devices {, including fasteners and spinal fixators, even if a part thereof projects from the skin (bone staples A61B 17/0642; dental regeneration membranes A61C 8/0006}} |
| U | A61B 17/70 | <ul style="list-style-type: none"> • • • • Spinal positioners or stabilisers {; Bone stabilisers comprising fluid filler in an implant} |
| M | A61B 17/7059 | <ul style="list-style-type: none"> • • • • • {Cortical plates (A61B 17/7007, A61B 17/7058 take precedence)} |
| U | A61B 17/80 | <ul style="list-style-type: none"> • • • • • Cortical plates {, i.e. bone plates; Instruments for holding or positioning cortical plates, or for compressing bones attached to cortical plates} |
| M | A61B 17/8004 | <ul style="list-style-type: none"> • • • • • {with means for extendingdistracting or compressing the bone or bones} |
| U | A61B 17/8009 | <ul style="list-style-type: none"> • • • • • • {the plate having a ratchet} |
| M | A61B 17/8023 | <ul style="list-style-type: none"> • • • • • • {Variable length plates adjustable in both directions} |
| U | A61B 17/8033 | <ul style="list-style-type: none"> • • • • • • {having indirect contact with screw heads, or having contact with screw heads maintained with the aid of additional components, e.g. nuts, wedges or head covers} |
| M | A61B 17/8047 | <ul style="list-style-type: none"> • • • • • • • {wherein the additional element surrounds the screw head in the plate hole (A61B 17/8052 takes precedence)} |
| U | A61B 17/8061 | <ul style="list-style-type: none"> • • • • • • • {specially adapted for particular bones (A61B 17/70 and A61B 17/74 take precedence)} |
| M | A61B 17/8071 | <ul style="list-style-type: none"> • • • • • • • • {for the jaw (protheses for mandibular reconstruction A61F 2/2803)} |
| M | A61B 17/8085 | <ul style="list-style-type: none"> • • • • • • • • {with pliable or malleable elements or having a mesh-like structure, e.g. small strips for craniofacial surgery (A61B 17/8071, A61B 17/8076 take precedence; connecting protheses with the body A61F 2/00)} |
| M | A61B 17/809 | <ul style="list-style-type: none"> • • • • • • • • {with bone-penetrating elements, e.g. blades or prongs (bone staples A61B 17/0642; intramedullary nails with a plate at an end A61B 17/7233)} |
| U | A61B 17/84 | <ul style="list-style-type: none"> • • • • • • • • Fasteners therefor {or fasteners being internal fixation devices} |
| U | A61B 17/846 | <ul style="list-style-type: none"> • • • • • • • • • {Nails or pins, i.e. anchors without movable parts, holding by friction only, with or without structured surface (A61B 17/72, A61B 17/86 take precedence)} |
| M | A61B 17/86 | <ul style="list-style-type: none"> • • • • • • • • • • {Threaded wires; pins or screws Pins or screws {or threaded wires; Nutsnuts therefor (A61B 17/72; A61B 17/74, A61F 2/4455 take precedence)} |

- M A61B 17/8625 {Shanks, i.e. parts contacting bone tissue ~~(screw-in dental implants A61C 8/0018)~~}
- U A61B 17/88 . . . {Osteosynthesis instruments;} Methods or means for implanting or extracting internal {or external} fixation devices {(A61B 17/7074 takes precedence)}
- M A61B 17/8802 {Equipment for handling bone cement or other fluid fillers ~~(plugs or restrictors for bone cement A61F 2/30723)~~}
- M A61B 17/8805 {for introducing fluid filler into bone or extracting it (A61B 17/7097, A61B 17/8833 take precedence; ~~for introducing bone graft A61F 2/4601~~)}
- U A61B 17/8825 {characterised by syringe details (A61B 17/8822, A61B 17/8827 take precedence)}
- M A61B 17/8833 {~~Tools for preparing, e.g. curing, cement or other~~ *Osteosynthesis tools specially adapted for handling bone cement or* fluid fillers ~~(B01F takes precedence)~~; Means for supplying *bone* cement or ~~other~~ fluid fillers to ~~an introducing tool~~ *introducing tools*, e.g. cartridge handling means}
- M A61B 17/8836 {for heating, cooling or curing ~~the filler of bone cement or fluid fillers~~}
- M A61B 2017/8838 {for mixing; ~~with or without means for supplying the mixed filler to an injecting tool~~ *bone cement or fluid fillers*}
- M A61B 17/8861 {Apparatus for manipulating flexible wires or straps ~~(devices for inserting Kirschner wires A61B 17/1697)~~}
- M A61B 17/8863 {Apparatus for shaping or cutting ~~osteosynthetic equipment~~ *osteosynthesis equipment by medical personnel*}
- M A61B 17/8866 {for gripping or pushing bones, e.g. approximators ~~(joint distractors A61B 17/025)~~}

Project: RP0327 (A61F)

- U A61F 11/00 **Methods or devices for treatment of the ears, e.g. surgical; Protective devices for the ears, carried on the body or in the hand (headwear, e.g. caps or helmets, with means for protecting the ears A42B 1/0186, A42B 3/16); Non-electric hearing aids**
- A61F 11/006 . {Ear cleaners, e.g. curettes (cotton tips A61F 13/38; cleaning by suction ~~A61M 1/0023~~ *A61M 1/71*, by irrigation A61M 3/02)}

Project: MP0455 (A61K)

- M A61K 8/00 **Cosmetics or similar toilet preparations ~~(casings or accessories for storing or handling of solid or pasty toilet or cosmetic substances A45D 40/00)~~**

NOTES

1. Use of cosmetics or similar toilet preparations is further classified in subclass [A61Q](#).
2. Use of cosmetics or similar toilet preparations is mandatorily further classified in subclass [A61Q](#).
3. Attention is drawn to the Notes in class [C07](#), for example the notes following the title of subclass [C07D](#), setting forth the rules for classifying organic compounds in that class, which rules are also applicable, if not otherwise indicated, to the classification of organic compounds in group [A61K 8/00](#).
4. Salts or complexes of organic compounds are classified according to the base compounds. If a complex is formed between two or more compounds, classification is made for each compound.

- M A61K 9/00** Medicinal preparations characterised by special physical form ~~{(nuclear magnetic resonance contrast preparations or magnetic resonance imaging contrast ~~preparataions~~ preparations A61K 49/18; preparations containing radioactive substances A61K 51/12)}~~
- NOTE**
Among the one-dot groups of [A61K 9/00](#), classification is not made in the last appropriate place.
[A61K 9/00](#) is subdivided according to the following concepts:
- the drug release technique ([A61K 9/0002](#) and subgroups),
 - the site of application ([A61K 9/0012](#) and subgroups), and
 - the physical form ([A61K 9/0087](#) - [A61K 9/7023](#)).
- Where relevant, documents are classified in more than one of these subdivisions.
- U A61K 9/0087** • {Galenical forms not covered by [A61K 9/02](#) - [A61K 9/7023](#)}
- M A61K 9/0092** • • {Hollow drug-filled fibres, tubes of the core-shell type, coated fibres, coated rods, microtubules, ~~nanotubes~~ or ~~nanotubes~~}~~{fibres of the matrix type containing drug A61K 9/70}~~
- M A61K 9/70** • Web, sheet or filament bases {; Films; ~~Fibres of the matrix type containing drug; Fibres of the matrix type containing drug~~ (hollow drug-filled fibres [A61K 9/0092](#); ~~bandages, dressings or absorbent pads A61F 13/00, chemical aspects thereof A61L 15/00~~)}

Project: RP0327 (A61M)

- M A61M 1/00** Suction or pumping devices for medical purposes; Devices for carrying-off, for treatment of, or for carrying-over, body-liquids; Drainage systems (~~{A61M 3/00 - A61M 5/00, A61M 11/00 - A61M 16/00, A61M 27/00 - A61M 35/00 take precedence}~~; catheters [A61M 25/00](#); tube connectors, tube couplings, valves or branch units specially adapted for medical use [A61M 39/00](#); devices for taking samples of blood [A61B 5/14](#)[A61B 5/15](#); ~~implements for holding wounds open A61B 17/02; {saliva removers for dentists A61C 17/06}~~; filters implantable into blood vessels [A61F 2/01](#); ~~pumps in general F04~~)
- F A61M 1/0001 (Frozen)** • {Containers for suction drainage, e.g. rigid containers}
- WARNING**
*Group A61M 1/0001 is no longer used for the classification of documents as of May 1, 2021.
The content of this group is being reclassified into groups A61M 1/60, A61M 1/64, A61M 1/65, A61M 1/66, A61M 1/67, A61M 1/68, A61M 1/682, A61M 1/684, A61M 1/98, A61M 1/982, A61M 1/984 and A61M 1/985.
All groups listed in this Warning should be considered in order to perform a complete search.*
- F A61M 1/0003 (Frozen)** • • {Self-contained vacuum aspirators}
- WARNING**
*Group A61M 1/0003 is no longer used for the classification of documents as of May 1, 2021.
The content of this group is being reclassified into groups A61M 1/60, A61M 1/64, A61M 1/65, A61M 1/66, A61M 1/67, A61M 1/68, A61M 1/682, A61M 1/684, A61M 1/98, A61M 1/982, A61M 1/984 and A61M 1/985.
All groups listed in this Warning should be considered in order to perform a complete search.*
- D A61M 1/0005** • • {with means for emptying the suction container, e.g. by interrupting suction}
<administratively transferred to [A61M 1/63](#)>

- D A61M 1/0007
- • • {Emptying the suction container without interrupting suction}
 - <administratively transferred to [A61M 1/631](#)>
- D A61M 1/0009
- • {Incorporating a movable wall to create suction, e.g. syringes (with a flexible member creating suction A61M 1/0011; cupping glasses A61M 1/08)}
 - <administratively transferred to [A61M 1/67](#)>
- F A61M 1/0011
(Frozen)
- • {Drainage containers incorporating a flexible member creating suction, e.g. bags in a low-pressure chamber, bellows}
- WARNING**
*Group A61M 1/0011 is no longer used for the classification of documents as of May 1, 2021.
 The content of this group is being reclassified into groups A61M 1/604, A61M 1/62, A61M 1/68, A61M 1/682 and A61M 1/684.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- D A61M 1/0013
- • {Two or three bottle systems for underwater drainage, e.g. for chest cavity drainage}
 - <administratively transferred to [A61M 1/61](#)>
- D A61M 1/0015
- • {Mechanical means for preventing flexible containers from collapsing when vacuum is applied inside, e.g. stents}
 - <administratively transferred to [A61M 1/602](#)>
- D A61M 1/0017
- • {Bag or liner in a rigid container, with suction applied to both}
 - <administratively transferred to [A61M 1/604](#)>
- D A61M 1/0019
- • {Drainage containers not being adapted for subjection to vacuum, e.g. bags (devices worn by the patient for reception of urine A61F 5/44; emptying devices for drainage bags B65B 69/0016)}
 - <administratively transferred to [A61M 1/69](#)>
- D A61M 1/0021
- • {Gravity drainage systems (A61M 1/0019 takes precedence)}
 - <administratively transferred to [A61M 1/70](#)>
- F A61M 1/0023
(Frozen)
- • {Suction drainage systems (containers therefor [A61M 1/0001](#); suction-irrigation systems [A61M 1/0058](#))}
- WARNING**
*Group A61M 1/0023 is no longer used for the classification of documents as of May 1, 2021.
 The content of this group is being reclassified into groups A61M 1/71 - A61M 1/985.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- D A61M 1/0025
- • {comprising sensors or indicators for physical values}
 - <administratively transferred to [A61M 1/73](#)>
- D A61M 1/0027
- • • {Visual indicating means for vacuum pressure}
 - <administratively transferred to [A61M 1/732](#)>
- D A61M 1/0029
- • • {Visual indicating means for flow}
 - <administratively transferred to [A61M 1/734](#)>
- D A61M 1/0031
- • {Suction control (A61M 1/0013, A61M 1/0041 take precedence)}
 - <administratively transferred to [A61M 1/74](#)>
- D A61M 1/0033
- • • {by changing the size of a vent (A61M 1/0047 takes precedence)}
 - <administratively transferred to [A61M 1/742](#)>

- D A61M 1/0035
- • • {by changing the section of the line, e.g. flow regulating valves (A61M 1/0043, A61M 1/0045 take precedence)}
 - <administratively transferred to [A61M 1/743](#)>
- D A61M 1/0037
- • {Intermittent or pulsating suction (A61M 1/0005, A61M 1/0062 take precedence)}
 - <administratively transferred to [A61M 1/75](#)>
- D A61M 1/0039
- • {Handpieces (aspiration tips A61M 1/008)}
 - <administratively transferred to [A61M 1/76](#)>
- D A61M 1/0041
- • • {with means for varying suction manually (suction control A61M 1/0031)}
 - <administratively transferred to [A61M 1/741](#)>
- D A61M 1/0043
- • • • {by changing the section of the line}
 - <administratively transferred to [A61M 1/7413](#)>
- D A61M 1/0045
- • • • • {by deformation of the fluid passage}
 - <administratively transferred to [A61M 1/7415](#)>
- D A61M 1/0047
- • • • {by changing the size of a vent (in combination with changing the section of the line A61M 1/0043)}
 - <administratively transferred to [A61M 1/7411](#)>
- D A61M 1/0049
- • {Means preventing overflow or contamination of the pumping systems (combined with rigid drainage containers A61M 1/0001)}
 - <administratively transferred to [A61M 1/78](#)>
- D A61M 1/005
- • • {using valves with freely moving parts, e.g. float valves}
 - <administratively transferred to [A61M 1/782](#)>
- D A61M 1/0052
- • • {by filtering, sterilising or disinfecting the exhaust air, e.g. swellable filter valves}
 - <administratively transferred to [A61M 1/784](#)>
- D A61M 1/0054
- • • • {by heat}
 - <administratively transferred to [A61M 1/785](#)>
- D A61M 1/0056
- • {Filters for solid matter (similar devices for dental use A61C 17/065)}
 - <administratively transferred to [A61M 1/79](#)>
- F A61M 1/0058
(Frozen)
- {Suction-irrigation systems (aspiration tips supplying fluids ~~A61M 1/0084~~ [A61M 1/85](#); combined with tracheal tubes [A61M 16/0463](#))}
- WARNING**
Group [A61M 1/0058](#) is no longer used for the classification of documents as of May 1, 2021.
The content of this group is being reclassified into groups [A61M 1/77](#) and [A61M 1/92](#).
Groups [A61M 1/0058](#), [A61M 1/77](#) and [A61M 1/92](#) should be considered in order to perform a complete search.
- D A61M 1/006
- • {Determination of loss or gain of body fluids due to suction-irrigation, e.g. during surgery}
 - <administratively transferred to [A61M 1/777](#)>
- F A61M 1/0062
(Frozen)
- • {operating alternately (~~A61M 1/0064~~ [A61M 1/774](#) takes precedence)}
- WARNING**
Group [A61M 1/0062](#) is no longer used for the classification of documents as of May 1, 2021.
The content of this group is being reclassified into groups [A61M 1/772](#) and [A61M 1/92](#).

Groups A61M 1/0062, A61M 1/772 and A61M 1/92 should be considered in order to perform a complete search.

- D A61M 1/0064
 - {~~Handpieces therefor~~}
 - <administratively transferred to [A61M 1/774](#)>
- D A61M 1/0066
 - {~~Suction pumps (A61M 1/0003, A61M 1/0011, A61M 1/0023, A61M 60/00 take precedence)}~~
 - <administratively transferred to [A61M 1/80](#)>
- D A61M 1/0068
 - {~~Piston pumps, e.g. syringes~~}
 - <administratively transferred to [A61M 1/81](#)>
- D A61M 1/007
 - • {~~the barrel serving as aspiration container, e.g. in a breast pump~~}
 - <administratively transferred to [A61M 1/815](#)>
- D A61M 1/0072
 - {~~Membrane pumps, e.g. bulbs~~}
 - <administratively transferred to [A61M 1/82](#)>
- D A61M 1/0074
 - {~~by vacuum created above a liquid flowing from a closed container~~}
 - <administratively transferred to [A61M 1/802](#)>
- D A61M 1/0076
 - {~~using Laval or Venturi jet pumps~~}
 - <administratively transferred to [A61M 1/804](#)>
- D A61M 1/0078
 - {~~Tube strippers, i.e. for clearing the contents of the tubes (vein strippers A61B 17/00008)}~~
 - <administratively transferred to [A61M 1/83](#)>
- D A61M 1/008
 - {~~Drainage tubes; Aspiration tips~~}
 - <administratively transferred to [A61M 1/84](#)>
- D A61M 1/0082
 - {~~rotating~~}
 - <administratively transferred to [A61M 1/842](#)>
- D A61M 1/0084
 - {~~With gas or fluid supply means, e.g. for supplying rinsing fluids, anticoagulants (for irrigation without suction A61M 3/0279; combined with tracheal tubes A61M 16/0463; dental instruments with combined rinsing and aspirating A61C 17/0208)}~~
 - <administratively transferred to [A61M 1/85](#)>
- D A61M 1/0086
 - {~~Connectors therefor, e.g. detachable from hand-piece~~}
 - <administratively transferred to [A61M 1/86](#)>
- D A61M 1/0088
 - {~~with a seal, e.g. to stick around a wound for isolating the treatment area~~}
 - <administratively transferred to [A61M 1/90](#)>
- D A61M 1/009
 - • {~~having pumping means on suction site, e.g. miniature pump on wound dressing~~}
 - <administratively transferred to [A61M 1/962](#)>
- D A61M 1/0092
 - • {~~having venting means on or near the tip~~}
 - <administratively transferred to [A61M 1/964](#)>
- D A61M 1/0094
 - {~~having means for processing the drained fluid, e.g. an absorber~~}
 - <administratively transferred to [A61M 1/88](#)>
- D A61M 1/0096
 - {~~Draining devices provided with means for releasing antimicrobial or gelation agents in the drained fluid~~}
 - <administratively transferred to [A61M 1/882](#)>

- D A61M 1/0098
- {Draining devices provided with means for filtering out the harmless water content before discarding the drainage container}
 - <administratively transferred to [A61M 1/884](#)>
- U A61M 1/02
- Blood transfusion apparatus (blood infusion by syringes [A61M 5/14](#))
- C A61M 1/06
- Milking pumps (~~feeding bottles A61J 9/00~~)
- WARNING**
Group A61M 1/06 is impacted by reclassification into groups [A61M 1/067](#), [A61M 1/069](#), [A61M 1/0693](#), [A61M 1/06935](#) and [A61M 1/0697](#). All groups listed in this Warning should be considered in order to perform a complete search.
- U A61M 1/062
- {Pump accessories}
- U A61M 1/064
- {Suction cups}
- U A61M 1/066
- {Inserts therefor}
- N A61M 1/067
- {with means for hands-free operation}
- WARNING**
Group [A61M 1/067](#) is incomplete pending reclassification of documents from group [A61M 1/06](#). Groups [A61M 1/06](#) and [A61M 1/067](#) should be considered in order to perform a complete search.
- U A61M 1/068
- {having means for simultaneous feeding, e.g. with rubber nipple for feeding}
- N A61M 1/069
- {Means for improving milking yield}
- WARNING**
Groups [A61M 1/069](#), [A61M 1/0693](#), [A61M 1/06935](#) and [A61M 1/0697](#) are incomplete pending reclassification of documents from group [A61M 1/06](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N A61M 1/0693
- {with programmable or pre-programmed sucking patterns}
- N A61M 1/06935
- {imitating the suckling of an infant}
- N A61M 1/0697
- {having means for massaging the breast}
- M A61M 1/08
- Cupping glasses {, i.e. for enhancing blood circulation}
- U A61M 1/36
- Other treatment of blood in a by-pass of the natural circulatory system, e.g. temperature adaptation, irradiation {; Extra-corporeal blood circuits}
- M A61M 1/3672
- {Means preventing coagulation (~~aspiration tips with anticoagulant delivery A61M 1/0084~~)}
- N A61M 1/60
- {Containers for suction drainage, adapted to be used with an external suction source (containers not adapted for subjection to vacuum [A61M 1/69](#))}
- WARNING**
Group [A61M 1/60](#) is incomplete pending reclassification of documents from groups [A61M 1/0001](#) and [A61M 1/0003](#). Groups [A61M 1/0001](#), [A61M 1/0003](#) and [A61M 1/60](#) should be considered in order to perform a complete search.
- N A61M 1/602
- {Mechanical means for preventing flexible containers from collapsing when vacuum is applied inside, e.g. stents}
- N A61M 1/604
- {Bag or liner in a rigid container, with suction applied to both}
- WARNING**
Group [A61M 1/604](#) is incomplete pending reclassification of documents from group [A61M 1/0011](#).

Groups [A61M 1/0011](#) and [A61M 1/604](#) should be considered in order to perform a complete search.

- N A61M 1/61
 - {Two- or three-bottle systems for underwater drainage, e.g. for chest cavity drainage}
- N A61M 1/62
 - {Containers comprising a bag in a rigid low-pressure chamber, with suction applied to the outside surface of the bag (liners [A61M 1/604](#))}

WARNING

Group [A61M 1/62](#) is incomplete pending reclassification of documents from group [A61M 1/0011](#).

Groups [A61M 1/0011](#) and [A61M 1/62](#) should be considered in order to perform a complete search.

- N A61M 1/63
 - {with means for emptying the suction container, e.g. by interrupting suction}
- N A61M 1/631
 - • {Emptying the suction container without interrupting suction}
- N A61M 1/64
 - {Containers with integrated suction means (containers not adapted for subjection to vacuum [A61M 1/69](#))}

WARNING

Groups [A61M 1/64](#), [A61M 1/65](#), [A61M 1/66](#) and [A61M 1/67](#) are incomplete pending reclassification of documents from groups [A61M 1/0001](#) and [A61M 1/0003](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A61M 1/65
 - {the suction means being electrically actuated}
- N A61M 1/66
 - {Pre-evacuated rigid containers, e.g. Redon bottles}
- N A61M 1/67
 - {Containers incorporating a piston-type member to create suction, e.g. syringes (cupping glasses [A61M 1/08](#); with a flexible member creating suction [A61M 1/68](#))}
- N A61M 1/68
 - {Containers incorporating a flexible member creating suction}

WARNING

Groups [A61M 1/68](#), [A61M 1/682](#) and [A61M 1/684](#) are incomplete pending reclassification of documents from groups [A61M 1/0001](#), [A61M 1/0003](#) and [A61M 1/0011](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A61M 1/682
 - • {bulb-type, e.g. nasal mucus aspirators}
- N A61M 1/684
 - • {bellows-type}
- N A61M 1/69
 - {Drainage containers not being adapted for subjection to vacuum, e.g. bags (devices worn by the patient for reception of urine [A61F 5/44](#))}
- N A61M 1/70
 - {Gravity drainage systems (drainage containers not being adapted for subjection to vacuum [A61M 1/69](#))}
- N A61M 1/71
 - {Suction drainage systems (containers therefor [A61M 1/60](#), [A61M 1/64](#); negative pressure wound therapy systems [A61M 1/90](#))}

WARNING

Groups [A61M 1/71](#), [A61M 1/72](#), [A61M 1/73](#), [A61M 1/732](#), [A61M 1/734](#), [A61M 1/74](#), [A61M 1/7411](#), [A61M 1/7413](#), [A61M 1/7415](#), [A61M 1/742](#), [A61M 1/743](#), [A61M 1/75](#), [A61M 1/78](#), [A61M 1/782](#), [A61M 1/784](#), [A61M 1/785](#) and [A61M 1/79](#) are incomplete pending reclassification of documents from group [A61M 1/0023](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A61M 1/72 • • {Cassettes forming partially or totally the fluid circuit}
- N A61M 1/73 • • {comprising sensors or indicators for physical values}
- N A61M 1/732 • • • {Visual indicating means for vacuum pressure}
- N A61M 1/734 • • • {Visual indicating means for flow}
- N A61M 1/74 • • {Suction control (underwater drainage [A61M 1/61](#))}
- Q A61M 1/741 • • • {with means for varying suction manually}
- WARNING
Group [A61M 1/741](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).
Group [A61M 1/741](#) is also impacted by reclassification into group [A61M 1/76](#).
Groups [A61M 1/0023](#), [A61M 1/741](#) and [A61M 1/76](#) should be considered in order to perform a complete search.
- N A61M 1/7411 • • • • {by changing the size of a vent (in combination with changing the cross-section of the line [A61M 1/7413](#))}
- N A61M 1/7413 • • • • {by changing the cross-section of the line}
- N A61M 1/7415 • • • • • {by deformation of the fluid passage}
- N A61M 1/742 • • • {by changing the size of a vent ([A61M 1/7411](#) takes precedence)}
- N A61M 1/743 • • • {by changing the cross-section of the line, e.g. flow regulating valves ([A61M 1/7413](#) takes precedence)}
- N A61M 1/75 • • • {Intermittent or pulsating suction ([A61M 1/63](#), [A61M 1/772](#) take precedence)}
- N A61M 1/76 • • {Handpieces (specially for suction-irrigation [A61M 1/774](#), aspiration tips [A61M 1/84](#))}
- WARNING
Group [A61M 1/76](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 1/741](#).
Groups [A61M 1/0023](#), [A61M 1/741](#) and [A61M 1/76](#) should be considered in order to perform a complete search.
- N A61M 1/77 • • {Suction-irrigation systems (aspiration tips supplying fluids [A61M 1/85](#); specific for negative pressure wound therapy [A61M 1/92](#); combined with tracheal tubes [A61M 16/0463](#))}
- WARNING
Group [A61M 1/77](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#), [A61M 1/0058](#) and [A61M 3/0283](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N A61M 1/772 • • • {operating alternately}
- WARNING
Group [A61M 1/772](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#), [A61M 1/0062](#), [A61M 1/774](#) and [A61M 3/0283](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- Q A61M 1/774 • • • {Handpieces specially adapted for providing suction as well as irrigation, either simultaneously or independently}
- WARNING
Group [A61M 1/774](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).

Group [A61M 1/774](#) is also impacted by reclassification into group [A61M 1/772](#).

Groups [A61M 1/0023](#), [A61M 1/774](#) and [A61M 1/772](#) should be considered in order to perform a complete search.

- N A61M 1/777
- • {Determination of loss or gain of body fluids due to suction-irrigation, e.g. during surgery}

WARNING

Group [A61M 1/777](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 3/0283](#).

Groups [A61M 1/0023](#), [A61M 3/0283](#) and [A61M 1/777](#) should be considered in order to perform a complete search.

- N A61M 1/78
- {Means for preventing overflow or contamination of the pumping systems (combined with drainage containers [A61M 1/60](#))}

- N A61M 1/782
- • {using valves with freely moving parts, e.g. float valves}

- N A61M 1/784
- • {by filtering, sterilising or disinfecting the exhaust air, e.g. swellable filter valves}

- N A61M 1/785
- • • {by heat}

- N A61M 1/79
- {Filters for solid matter (specially adapted for dental use [A61C 17/065](#))}

- N A61M 1/80
- {Suction pumps ([A61M 1/64](#), [A61M 1/71](#), [A61M 60/00](#) take precedence)}

WARNING

Groups [A61M 1/80](#), [A61M 1/802](#), [A61M 1/804](#), [A61M 1/81](#), [A61M 1/815](#) and [A61M 1/82](#) are incomplete pending reclassification of documents from group [A61M 1/0023](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A61M 1/802
- • {by vacuum created above a liquid flowing from a closed container}

- N A61M 1/804
- • {using Laval or Venturi jet pumps}

- N A61M 1/81
- • {Piston pumps, e.g. syringes}

- N A61M 1/815
- • • {the barrel serving as aspiration container, e.g. in a breast pump}

- N A61M 1/82
- • {Membrane pumps, e.g. bulbs}

- N A61M 1/83
- {Tube strippers, i.e. for clearing the contents of the tubes}

WARNING

Group [A61M 1/83](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).

Groups [A61M 1/0023](#) and [A61M 1/83](#) should be considered in order to perform a complete search.

- Q A61M 1/84
- {Drainage tubes; Aspiration tips (for negative pressure wound therapy [A61M 1/90](#); for surgical cutting instruments [A61B 17/32](#))}

WARNING

Group [A61M 1/84](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).

Group [A61M 1/84](#) is also impacted by reclassification into groups [A61M 1/90](#), [A61B 17/32](#), [A61B 17/320016](#), [A61B 17/32002](#), [A61B 17/320036](#), [A61B 17/320068](#), [A61B 17/320092](#), [A61B 17/3201](#), [A61B 17/3203](#), [A61B 17/32037](#), [A61B 17/3205](#), [A61B 17/32053](#), [A61B 17/32056](#), [A61B 17/3207](#), [A61B 17/320708](#), [A61B 17/320725](#), [A61B 17/32075](#), [A61B 17/320758](#) and [A61B 17/320783](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- Q A61M 1/842
- {rotating (continuously rotating surgical cutting instruments [A61B 17/32002](#))}
- WARNING
- Group [A61M 1/842](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).
- Group [A61M 1/842](#) is also impacted by reclassification into groups [A61M 1/90](#), [A61B 17/32](#), [A61B 17/320016](#), [A61B 17/32002](#), [A61B 17/320036](#), [A61B 17/320068](#), [A61B 17/320092](#), [A61B 17/3201](#), [A61B 17/3203](#), [A61B 17/32037](#), [A61B 17/3205](#), [A61B 17/32053](#), [A61B 17/32056](#), [A61B 17/3207](#), [A61B 17/320708](#), [A61B 17/320725](#), [A61B 17/32075](#), [A61B 17/320758](#) and [A61B 17/320783](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- Q A61M 1/85
- {with gas or fluid supply means, e.g. for supplying rinsing fluids or anticoagulants (for negative pressure wound therapy [A61M 1/92](#), [A61M 1/94](#); combined with tracheal tubes [A61M 16/0463](#); dental instruments with combined rinsing and aspirating [A61C 17/0208](#))}
- WARNING
- Group [A61M 1/85](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 3/0283](#).
- Group [A61M 1/85](#) is also impacted by reclassification into groups [A61M 1/90](#), [A61B 17/32](#), [A61B 17/320016](#), [A61B 17/32002](#), [A61B 17/320036](#), [A61B 17/320068](#), [A61B 17/320092](#), [A61B 17/3201](#), [A61B 17/3203](#), [A61B 17/32037](#), [A61B 17/3205](#), [A61B 17/32053](#), [A61B 17/32056](#), [A61B 17/3207](#), [A61B 17/320708](#), [A61B 17/320725](#), [A61B 17/32075](#), [A61B 17/320758](#) and [A61B 17/320783](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- Q A61M 1/86
- {Connectors between drainage tube and handpiece, e.g. drainage tubes detachable from handpiece}
- WARNING
- Group [A61M 1/86](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).
- Group [A61M 1/86](#) is also impacted by reclassification into groups [A61M 1/90](#), [A61B 17/32](#), [A61B 17/320016](#), [A61B 17/32002](#), [A61B 17/320036](#), [A61B 17/320068](#), [A61B 17/320092](#), [A61B 17/3201](#), [A61B 17/3203](#), [A61B 17/32037](#), [A61B 17/3205](#), [A61B 17/32053](#), [A61B 17/32056](#), [A61B 17/3207](#), [A61B 17/320708](#), [A61B 17/320725](#), [A61B 17/32075](#), [A61B 17/320758](#) and [A61B 17/320783](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- N A61M 1/87
- {Details of the aspiration tip, not otherwise provided for}
- WARNING
- Group [A61M 1/87](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 1/90](#).
- Groups [A61M 1/0023](#), [A61M 1/90](#) and [A61M 1/87](#) should be considered in order to perform a complete search.
- Q A61M 1/88
- {Draining devices having means for processing the drained fluid, e.g. an absorber (for liposuction [A61M 1/892](#))}
- WARNING
- Group [A61M 1/88](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).
- Group [A61M 1/88](#) is also impacted by reclassification into group [A61M 1/892](#).

Groups [A61M 1/0023](#), [A61M 1/88](#) and [A61M 1/892](#) should be considered in order to perform a complete search.

- N A61M 1/882
- {Draining devices provided with means for releasing antimicrobial or gelation agents in the drained fluid}
- WARNING
- Group [A61M 1/882](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).
Groups [A61M 1/0023](#) and [A61M 1/882](#) should be considered in order to perform a complete search.
- N A61M 1/884
- {Draining devices provided with means for filtering out the harmless water content before discarding the drainage container}
- WARNING
- Group [A61M 1/884](#) is incomplete pending reclassification of documents from group [A61M 1/0023](#).
Groups [A61M 1/0023](#) and [A61M 1/884](#) should be considered in order to perform a complete search.
- N A61M 1/89
- {Suction aspects of liposuction (surgical cutting instruments [A61B 17/32](#))}
- WARNING
- Groups [A61M 1/89](#), [A61M 1/893](#) and [A61M 1/895](#) are incomplete pending reclassification of documents from group [A61M 1/0023](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N A61M 1/892
- {with treatment of the collected fat}
- WARNING
- Group [A61M 1/892](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 1/88](#).
Groups [A61M 1/0023](#), [A61M 1/88](#) and [A61M 1/892](#) should be considered in order to perform a complete search.
- N A61M 1/893
- • {with extraction of specific components, e.g. of stem cells}
- N A61M 1/895
- • {with means for reinjection of collected fat}
- Q A61M 1/90
- {Negative pressure wound therapy devices, i.e. devices for applying suction to a wound to promote healing, e.g. including a vacuum dressing}
- WARNING
- Group [A61M 1/90](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#), [A61M 1/84](#), [A61M 1/842](#), [A61M 1/85](#) and [A61M 1/86](#).
Group [A61M 1/90](#) is also impacted by reclassification into groups [A61M 1/87](#), [A61M 1/91](#), [A61M 1/912](#), [A61M 1/913](#), [A61M 1/915](#), [A61M 1/916](#), [A61M 1/917](#), [A61M 1/918](#), [A61M 1/92](#), [A61M 1/94](#), [A61M 1/95](#), [A61M 1/96](#), [A61M 1/962](#), [A61M 1/964](#), [A61M 1/966](#), [A61M 1/98](#), [A61M 1/982](#), [A61M 1/984](#) and [A61M 1/985](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N A61M 1/91
- • {Suction aspects of the dressing}
- WARNING
- Groups [A61M 1/91](#), [A61M 1/912](#), [A61M 1/913](#), [A61M 1/915](#), [A61M 1/916](#), [A61M 1/917](#) and [A61M 1/918](#) are incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 1/90](#).
All groups listed in this Warning should be considered in order to perform a complete search.

- N A61M 1/912 . . . {Connectors between dressing and drainage tube}
- N A61M 1/913 {having a bridging element for transferring the reduced pressure from the connector to the dressing}
- N A61M 1/915 . . . {Constructional details of the pressure distribution manifold}
- N A61M 1/916 . . . {specially adapted for deep wounds}
- N A61M 1/917 . . . {specially adapted for covering whole body parts}
- N A61M 1/918 . . . {for multiple suction locations}
- N A61M 1/92 . . {with liquid supply means}

WARNING

Group [A61M 1/92](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#), [A61M 1/0058](#), [A61M 1/0062](#), [A61M 1/90](#) and [A61M 3/0283](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A61M 1/94 . . {with gas supply means}

WARNING

Group [A61M 1/94](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 1/90](#).

Groups [A61M 1/0023](#), [A61M 1/90](#) and [A61M 1/94](#) should be considered in order to perform a complete search.

- N A61M 1/95 . . {with sensors for exudate composition}

WARNING

Group [A61M 1/95](#) is incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 1/90](#).

Groups [A61M 1/0023](#), [A61M 1/90](#) and [A61M 1/95](#) should be considered in order to perform a complete search.

- N A61M 1/96 . . {Suction control thereof}

WARNING

Groups [A61M 1/96](#), [A61M 1/962](#), [A61M 1/964](#) and [A61M 1/966](#) are incomplete pending reclassification of documents from groups [A61M 1/0023](#) and [A61M 1/90](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A61M 1/962 . . . {having pumping means on the suction site, e.g. miniature pump on dressing or dressing capable of exerting suction}
- N A61M 1/964 . . . {having venting means on or near the dressing}
- N A61M 1/966 . . . {having a pressure sensor on or near the dressing}
- N A61M 1/98 . . {Containers specifically adapted for negative pressure wound therapy}

WARNING

Groups [A61M 1/98](#), [A61M 1/982](#), [A61M 1/984](#) and [A61M 1/985](#) are incomplete pending reclassification of documents from groups [A61M 1/0001](#), [A61M 1/0003](#), [A61M 1/0023](#) and [A61M 1/90](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A61M 1/982 . . . {with means for detecting level of collected exudate}
- N A61M 1/984 . . . {portable on the body}
- N A61M 1/985 {the dressing itself forming the collection container}

U	A61M 3/00	Medical syringes, e.g. enemata; Irrigators (A61M 5/00 takes precedence; pistons A61M 5/315)
C	A61M 3/02	<ul style="list-style-type: none"> • Enemata; Irrigators <p>WARNING Group A61M 3/02 is impacted by reclassification into groups A61M 3/0201 and A61M 3/0202. Groups A61M 3/02, A61M 3/0201 and A61M 3/0202 should be considered in order to perform a complete search.</p>
N	A61M 3/0201	<ul style="list-style-type: none"> • {Cassettes therefor} <p>WARNING Group A61M 3/0201 is incomplete pending reclassification of documents from group A61M 3/02. Groups A61M 3/02 and A61M 3/0201 should be considered in order to perform a complete search.</p>
N	A61M 3/0202	<ul style="list-style-type: none"> • {with electronic control means or interfaces} <p>WARNING Group A61M 3/0202 is incomplete pending reclassification of documents from group A61M 3/02. Groups A61M 3/02 and A61M 3/0202 should be considered in order to perform a complete search.</p>
C	A61M 3/0233	<ul style="list-style-type: none"> • {characterised by liquid supply means, e.g. from pressurised reservoirs} <p>WARNING Group A61M 3/0233 is impacted by reclassification into group A61M 3/0245. Groups A61M 3/0233 and A61M 3/0245 should be considered in order to perform a complete search.</p>
C	A61M 3/0237	<ul style="list-style-type: none"> • {the pressure being generated in the reservoir, e.g. by gas generating tablets} <p>WARNING Group A61M 3/0237 is impacted by reclassification into group A61M 3/0245. Groups A61M 3/0237 and A61M 3/0245 should be considered in order to perform a complete search.</p>
C	A61M 3/0241	<ul style="list-style-type: none"> • {the liquid being supplied by gravity} <p>WARNING Group A61M 3/0241 is impacted by reclassification into group A61M 3/0245. Groups A61M 3/0241 and A61M 3/0245 should be considered in order to perform a complete search.</p>
T	A61M 3/0245	<ul style="list-style-type: none"> • {Containers therefor, e.g. with heating means; or with storage means for cannula} <p>WARNING Group A61M 3/0245 is incomplete pending reclassification of documents from groups A61M 3/0233, A61M 3/0237, A61M 3/0241, A61M 3/025, A61M 3/0254, A61M 3/0258 and A61M 3/0262. All groups listed in this Warning should be considered in order to perform a complete search.</p>

- C A61M 3/025
- • • {supplied directly from the pressurised water source, e.g. with medicament supply (combined with bidets [A61M 3/06](#))}
- WARNING**
Group [A61M 3/025](#) is impacted by reclassification into group [A61M 3/0245](#). Groups [A61M 3/025](#) and [A61M 3/0245](#) should be considered in order to perform a complete search.
- C A61M 3/0254
- • • {the liquid being pumped (by the patient's weight [A61M 3/0225](#))}
- WARNING**
Group [A61M 3/0254](#) is impacted by reclassification into group [A61M 3/0245](#). Groups [A61M 3/0254](#) and [A61M 3/0245](#) should be considered in order to perform a complete search.
- C A61M 3/0258
- • • • {by means of electric pumps}
- WARNING**
Group [A61M 3/0258](#) is impacted by reclassification into group [A61M 3/0245](#). Groups [A61M 3/0258](#) and [A61M 3/0245](#) should be considered in order to perform a complete search.
- C A61M 3/0262
- • • • {manually, e.g. by squeezing a bulb}
- WARNING**
Group [A61M 3/0262](#) is impacted by reclassification into group [A61M 3/0245](#). Groups [A61M 3/0262](#) and [A61M 3/0245](#) should be considered in order to perform a complete search.
- U A61M 3/0279
- • {Cannula; Nozzles; Tips; their connection means}
- C A61M 3/0283
- • • {with at least two inner passageways, a first one for irrigating and a second for evacuating ([suction-irrigation systems A61M 1/77](#); [aspiration tips with fluid supply means A61M 1/85](#); for negative pressure wound therapy [A61M 1/92](#))}
- WARNING**
Group [A61M 3/0283](#) is impacted by reclassification into groups [A61M 1/77](#), [A61M 1/772](#), [A61M 1/774](#), [A61M 1/777](#), [A61M 1/85](#) and [A61M 1/92](#). All groups listed in this Warning should be considered in order to perform a complete search.
- U A61M 5/00
- Devices for bringing media into the body in a subcutaneous, intra-vascular or intramuscular way; Accessories therefor, e.g. filling or cleaning devices, arm-rests ({vaccination appliances for veterinary use [A61D 1/025](#)}; tube connectors, tube couplings, valves or branch units specially adapted for medical use [A61M 39/00](#); containers specially adapted for medical or pharmaceutical purposes [A61J 1/00](#); {combinations of vial and syringe for mixing or transferring their contents [A61J 1/20](#); holders for containers for collecting, storing or administering blood or medical fluids [A61J 1/16](#)})
- M A61M 5/14
- Infusion devices, e.g. infusing by gravity; Blood infusion; Accessories therefor (~~suction in pumping blood transfusion A61M 1/02~~; ~~infusion containers A61J 1/05~~)}
- U A61M 16/00
- Devices for influencing the respiratory system of patients by gas treatment, e.g. mouth-to-mouth respiration; Tracheal tubes (stimulating the respiratory movement by mechanical, pneumatic or electrical means, iron lungs combined with gas breathing means [A61H 31/00](#))

- U A61M 16/0087 · {Environmental safety or protection means, e.g. preventing explosion}
- A61M 16/009 · · {Removing used or expired gases or anaesthetic vapours (~~Filtering~~*filtering*, sterilising or disinfecting the exhaust air in drainage systems ~~A61M 1/0052~~*A61M 1/784*; ~~Bacterial filters in the expiratory path~~ *A61M 16/1065*; ~~bacterial filters in the expiratory path~~ *A61M 16/1065*)}

Project: N/A (A61M)

- U A61M 25/00 **Catheters; Hollow probes (dilators** [A61M 29/00](#); {peritoneal catheters [A61M 1/285](#); tracheal tubes [A61M 16/04](#); for drainage [A61M 27/00](#); for uterus, vagina or rectum [A61M 31/00](#)} ; for measuring or testing [A61B](#); {materials for catheters [A61L 29/00](#)})
- U A61M 25/0067 · {characterised by the distal end, e.g. tips ([A61M 25/0054](#), [A61M 25/04](#) take precedence; balloon catheters [A61M 25/10](#))}
- U A61M 25/0082 · · {Catheter tip comprising a tool}
- A61M 2025/0095 · · · {being one or more needles protruding from the distal tip and which are not used for injection nor for electro-~~simulation~~*stimulation*, e.g. for fixation purposes}

Project: RP0327 (A61M)

- M A61M 27/00 Drainage ~~appliances~~*appliance* for wounds or the like, {~~{~~, i.e. wound drains, implanted drains} (~~{negative pressure wound therapy devices~~ [A61M 1/90](#); implements for holding ~~wounds~~*wound* open [A61B 17/02](#) {; {middle ear drainage [A61F 11/002](#)}; ~~other drainage devices~~ *A61M 1/00*})
- U A61M 39/00 Tubes, tube connectors, tube couplings, valves, access sites or the like, specially adapted for medical use (for respiratory devices, e.g. tracheal tubes [A61M 16/00](#); artificial heart valves [A61F 2/24](#))
- WARNING
Not complete, see [A61J 1/14](#)
- U A61M 39/22 · Valves or arrangement of valves {([A61M 39/02](#), [A61M 39/0247](#), [A61M 39/16](#) take precedence; regulating valves in infusion systems [A61M 5/16881](#); in devices worn by the patient for the reception of urine, faeces, catamenial or other discharge, or in colostomy devices [A61F 5/4405](#))}
- A61M 39/28 · · Clamping means for squeezing flexible tubes, e.g. roller clamps {(tube strippers ~~A61M 1/0078~~*A61M 1/83*)}

Project: MP0455 (A61Q)

- M A61Q 17/00 Barrier preparations; Preparations brought into direct contact with the skin for affording protection against external influences, e.g. sunlight, X-rays or other harmful rays, corrosive materials, bacteria or insect stings (~~chemical means for combating harmful chemical agents~~ *A62D 3/00*)

Project: MP0455 (A62D)

- U A62D 7/00 Composition of materials for transparent parts of gas-masks, respirators, breathing bags, or helmets
- M A62D 7/02 · Clear-view sheets which prevent the formation of water drops or ice (~~materials for minimising adherence of ice or water to surfaces~~ *C09K 3/18*)
- M A62D 9/00 Composition of chemical substances for use in breathing apparatus (~~production of oxygen-generating compounds in general, processes for the production of oxygen from chemicals in general~~ *C01B 13/00*, *C25B 1/02*)

Project: RP0451 (B01D)

- M B01D 23/00 {Gravity filters ~~(with moving filtering elements B01D 33/0035)~~}
- U B01D 24/00 Filters comprising loose filtering material, i.e. filtering material without any binder between the individual particles or fibres thereof ([B01D 27/02](#) takes precedence)
- M B01D 24/001 • {Making filter elements *not provided for elsewhere*}~~(not provided for elsewhere; see also B01D 25/001, B01D 27/005, B01D 29/012, B01D 29/111, B01D 33/0093)}~~
- U B01D 25/00 Filters formed by clamping together several filtering elements or parts of such elements (disc filters [B01D 29/39](#))
- M B01D 25/001 • {Making filtering elements *not provided for elsewhere*}~~(not provided for elsewhere; see also B01D 24/001, B01D 27/005, B01D 29/012, B01D 29/111, B01D 33/0093)}~~

Project: RP0426 (B01D)

- D B01D 25/04 • {with screens or sheets, e.g. cloths, paper (B01D 25/12 takes precedence)}
<administratively transferred to [B01D 29/00](#)>
- D B01D 25/06 • {with loose, granular or fibrous filtering material}
<administratively transferred to [B01D 24/00](#)>
- D B01D 25/08 • {with rigid self-supporting filtering elements}
<administratively transferred to [B01D 29/03](#)>
- D B01D 25/10 • {in which the suspended particles form the filtering medium}
<administratively transferred to [B01D 24/00](#)>
- M B01D 25/12 • Filter presses, i.e. of the plate *or plate* and frame type ~~((filter presses in which the liquid is removed by pressing out solid matter B30B))~~
- D B01D 25/121 • • {with bandshaped filtering elements intermittently entrained between the press plates, the lateral sides of the elements being clamped between two successive plates or between a plate and a successive frame during the filtration period, e.g. zigzag endless filter belts}
<administratively transferred to [B01D 25/127](#)>
- D B01D 25/122 • • {Construction of the plates}
<administratively transferred to [B01D 25/215](#)>
- D B01D 25/124 • • {Pressing-out operation after filtration, e.g. of the cake (presses in general B30)}
<administratively transferred to [B01D 25/164](#)>
- D B01D 25/125 • • {Opening and/or closing and/or pressure applying devices or means}
<administratively transferred to [B01D 25/164](#)>
- D B01D 25/14 • • {Clamping means clamping of filter cloth or similar securing means}
<administratively transferred to [B01D 25/164](#)>
- D B01D 25/16 • {Edge filtering elements, i.e. using contiguous impervious surfaces}
<administratively transferred to [B01D 29/44](#)>
- U B01D 25/164 • • Chamber-plate presses, i.e. the sides of the filtering elements being clamped between two successive filtering plates ([B01D 25/127](#), [B01D 25/172](#), [B01D 25/176](#), [B01D 25/19](#) take precedence)
- U B01D 25/1645 • • • {the plates being placed in a non-vertical position}
- U B01D 25/172 • • Plate spreading means (removal of filter cakes [B01D 25/32](#))

- U B01D 25/176
 - attaching the filter element to the filter press plates, e.g. around the central feed hole in the plates
- D B01D 25/18
 - {of flat, stacked bodies}
 - <administratively transferred to [B01D 29/46](#)>
- U B01D 25/19
 - Clamping means for closing the filter press, e.g. hydraulic jacks
- D B01D 25/20
 - {of spirally or helically wound bodies}
 - <administratively transferred to [B01D 29/48](#)>
- U B01D 25/21
 - Plate and frame presses ([B01D 25/172](#), [B01D 25/176](#), [B01D 25/19](#) take precedence)
- U B01D 25/215
 - {Construction of the filter plates, frames}

Project: RP0451 (B01D)

- U B01D 27/00 **Cartridge filters of the throw-away type**
- M B01D 27/005
 - {Making filter elements *not provided for elsewhere*}~~{not provided for elsewhere}~~*(see also B01D 24/001, B01D 25/001, B01D 29/012, B01D 29/111, B01D 33/0093)}*
- U B01D 29/00 **Other filters with filtering elements stationary during filtration, e.g. pressure or suction filters, or filtering elements therefor {(B01D 24/00, B01D 25/00 and B01D 27/00 take precedence)}**
- U B01D 29/0002
 - {Aspects of other filters with filtering elements stationary during filtration, or of filtering elements thereof}
- M B01D 29/0068
 - {Filters with hollow discs side-by-side on or around one or more tubes ~~{with elements moving during filtration B01D 33/0048, B01D 33/0051}~~}

Project: RP0426 (B01D)

- M B01D 29/09
 - with filtering bands, e.g. movable between filtering operations ~~{(B01D 25/121 takes precedence)}~~

Project: RP0451 (B01D)

- U B01D 33/00 **Filters with filtering elements which move during the filtering operation (filters comprising loose filtering material moving or fluidised during filtration [B01D 24/28](#) - [B01D 24/36](#); centrifuges [B04B](#))**
- D B01D 33/0003
 - {Aspects of filters with filtering elements which move during the filtering operation}
 - <administratively transferred to [B01D 33/00](#)>
- D B01D 33/0006
 - {with rotating filtering surfaces ~~{rotating brush filters B01D 35/10}~~}
 - <administratively transferred to [B01D 33/06](#)>
- D B01D 33/0009
 - {with cylindrical filtering surfaces, e.g. hollow drums, rotating drum filters for paper making D21B}
 - <administratively transferred to [B01D 33/06](#)>
- D B01D 33/0012
 - {Drums provided with cells each independently connected with pressure distributor}
 - <administratively transferred to [B01D 33/06](#)>
- D B01D 33/0016
 - {Drums with a single compartment}
 - <administratively transferred to [B01D 33/06](#)>
- D B01D 33/0019
 - {arranged for outward flow filtration}
 - <administratively transferred to [B01D 33/11](#)>

- | | | |
|---|--------------|--|
| D | B01D 33/0022 | {combined with filtering bands or the like}
<administratively transferred to B01D 33/04 > |
| D | B01D 33/0025 | {with endless filtering bands}
<administratively transferred to B01D 33/048 > |
| D | B01D 33/0029 | {with multiple filtering bands with or without one or more non-filtering bands}
<administratively transferred to B01D 33/04 > |
| D | B01D 33/0032 | {with loose, granular, or fibrous filtering material}
<administratively transferred to B01D 33/00 > |
| D | B01D 33/0035 | {Gravity filters}
<administratively transferred to B01D 33/00 > |
| D | B01D 33/0038 | {with external feed}
<administratively transferred to B01D 33/00 > |
| D | B01D 33/0041 | . . . {with plane surfaces}
<administratively transferred to B01D 33/15 > |
| D | B01D 33/0045 | {with rotary tables}
<administratively transferred to B01D 33/17 > |
| D | B01D 33/0048 | {with hollow discs transversely mounted on a hollow shaft}
<administratively transferred to B01D 33/21 > |
| D | B01D 33/0051 | {with hollow frames axially mounted on a hollow shaft}
<administratively transferred to B01D 33/25 > |
| D | B01D 33/0054 | {with loose, granular, or fibrous filtering material}
<administratively transferred to B01D 33/00 > |
| D | B01D 33/0058 | . . . {with filtering surfaces travelling along conveyors (tipping bucket type B01D 35/08; brush filters B01D 35/10)}
<administratively transferred to B01D 33/333 > |
| D | B01D 33/0061 | . . {Accessories and components}
<administratively transferred to B01D 33/44 > |
| D | B01D 33/0064 | . . . {Devices for handling the filter cake, e.g. washing, discharging}
<administratively transferred to B01D 33/58 > |
| D | B01D 33/0067 | {with scrapers, brushes, nozzles or the like placed on the cake-side of the filter (B01D 33/0074 takes precedence)}
<administratively transferred to B01D 33/46 > |
| D | B01D 33/007 | {counter-current flushing}
<administratively transferred to B01D 33/48 > |
| D | B01D 33/0074 | {with backwash shoes, with nozzles}
<administratively transferred to B01D 33/50 > |
| D | B01D 33/0077 | {by moving the filter element}
<administratively transferred to B01D 33/52 > |
| D | B01D 33/008 | {by vibration}
<administratively transferred to B01D 33/54 > |
| D | B01D 33/0083 | {by centrifugal force}
<administratively transferred to B01D 33/56 > |

- D B01D 33/0087
 - • • {Feed or discharge devices for liquids}
 - <administratively transferred to [B01D 33/70](#)>
- D B01D 33/009
 - • • {Pressure distribution systems (pressure distribution systems for filters with tipping buckets or trays B01D 35/08)}
 - <administratively transferred to [B01D 33/82](#)>
- D B01D 33/0093
 - {Making filter elements (not provided for elsewhere)(see also B01D 24/001, B01D 25/001, B01D 27/005, B01D 29/012, B01D 29/111)}
 - <administratively transferred to [B01D 33/067](#)>
- D B01D 33/0096
 - • {moving rectilinearly (filters B01D 35/10)}
 - <administratively transferred to [B01D 33/00](#)>

Project: RP0426 (B01D)

- U B01D 39/00 **Filtering material for liquid or gaseous fluids**
- U B01D 39/14
 - Other self-supporting filtering material {; Other filtering material (non-woven fabrics in general [D04H 3/00](#))}
- U B01D 39/16
 - • of organic material, e.g. synthetic fibres
- D B01D 39/1684
 - • • {Wound filtering material}
 - <administratively transferred to [B01D 39/16](#)>
- U B01D 39/20
 - • of inorganic material, e.g. asbestos paper, metallic filtering material of non-woven wires (porous ceramic material {[C04B 38/00](#)}; sintering metals [C22C 1/04](#); {making porous sintered metal bodies [B22F 3/10](#), honeycomb filters [B01D 46/2418](#), materials used for filtering exhaust gases of an internal combustion engine [F01N 3/022](#), ceramic honeycomb structures [C04B 38/0006](#)})
- D B01D 39/2096
 - • • {Wound materials}
 - <administratively transferred to [B01D 39/20](#)>

Project: RP0676 (B29C)

- U B29C 43/00 **Compression moulding, i.e. applying external pressure to flow the moulding material; Apparatus therefor {(by liberation of internal stresses [B29C 61/006](#))}**
- U B29C 43/32
 - Component parts, details or accessories; Auxiliary operations
- U B29C 43/36
 - • Moulds for making articles of definite length, i.e. discrete articles
- U B29C 43/3642
 - • • {Bags, bleeder sheets or cauls for isostatic pressing (flexible cores for vulcanizing tyres [B29D 30/0654](#))}
- M B29C 2043/3644
 - • • • {[Vacuum bags](#); ~~{vacuum bags and related details, e.g. fixing; Details thereof, e.g. fixing or~~ clamping (~~vacuum bagging~~ [B29C 70/44](#); ~~flexible pressing means~~ [B30B 5/02](#); ~~membrane press~~ [B30B 9/22](#); [B29C 70/544 takes precedence](#); applying pressure through membranes [B29C 51/28](#); bladders for making tires [B29D 30/0601](#); [flexible pressing means](#) [B30B 5/02](#); [membrane press](#) [B30B 9/22](#); vacuum laminating [B32B 37/1018](#))}
- M B29C 2043/3655
 - • • • {~~pressure~~[Pressure](#) transmitters, e.g. caul plates, ~~pressure pads~~; [Pressure pads](#) ([B29C 70/549 takes precedence](#))}
- C B29C 70/00 **Shaping composites, i.e. plastics material comprising reinforcements, fillers or preformed parts, e.g. inserts**

NOTE

In this group, the following terms or expressions are used with the meanings indicated:

- "reinforcement" means a structure in the form of fibres, wires, rods, bars, sections, plates or blocks, which improves the strength of an article;
- "filler" means a relatively inert substance in the form of particles, powder, beads, flakes or spheres, which improves the physical properties or increases the bulk or weight of an article;
- "preformed part" means a part made of any material, being completely shaped to have a determined form and which is not used as a reinforcement, e.g. wires or nets forced only into the surface of an article;
- "insert" means a preformed part incorporated in an article during moulding.

WARNING

Group [B29C 70/00](#) is impacted by reclassification into groups [B29C 70/003](#) – [B29C 70/0035](#).

Groups [B29C 70/00](#) and [B29C 70/003](#) – [B29C 70/0035](#) should be considered in order to perform a complete search.

N B29C 70/003

- {characterised by the matrix material, e.g. material composition or physical properties}

WARNING

Group [B29C 70/003](#) is incomplete pending reclassification of documents from group [B29C 70/00](#).

Groups [B29C 70/00](#) and [B29C 70/003](#) should be considered in order to perform a complete search.

N B29C 70/0035

- {comprising two or more matrix materials}

WARNING

Group [B29C 70/0035](#) is incomplete pending reclassification of documents from group [B29C 70/00](#).

Groups [B29C 70/00](#) and [B29C 70/0035](#) should be considered in order to perform a complete search.

U B29C 70/04

- comprising reinforcements only, e.g. self-reinforcing plastics

U B29C 70/28

- Shaping operations therefor

NOTES

1. This group covers:

- the shaping of a coherent fibrous reinforcements which are pre-impregnated or without binder; or of non-coherent reinforcements of fibres in a mould or on a support;
- the impregnation or introduction of a plastics matrix in reinforcements during shaping;

2. This group does not cover:

- the moulding by a single technique of plastics matrix material mixed with and containing reinforcing fibres of short length, which is covered by the appropriate place for that technique;
- the pretreatment, e.g. impregnation, of reinforcements *per se*, i.e. independently of their shaping, which is covered by group [B29B 15/08](#)

C B29C 70/30

- Shaping by lay-up, i.e. applying fibres, tape or broadsheet on a mould, former or core; Shaping by spray-up, i.e. spraying of fibres on a mould, former or core ~~{(by winding and joining, e.g. filament winding B29C 53/56; for building tyres B29D 30/08)}~~

WARNING

Group [B29C 70/30](#) is impacted by reclassification into groups [B29C 70/302](#) – [B29C 70/304](#).

Groups [B29C 70/30](#) and [B29C 70/302](#) – [B29C 70/304](#) should be considered in order to perform a complete search.

- N B29C 70/302 . . . {Details of the edges of fibre composites, e.g. edge finishing or means to avoid delamination}
- WARNING
Group [B29C 70/302](#) is incomplete pending reclassification of documents from group [B29C 70/30](#).
Groups [B29C 70/30](#) and [B29C 70/302](#) should be considered in order to perform a complete search.
- N B29C 70/304 . . . {In-plane lamination by juxtaposing or interleaving of plies, e.g. scarf joining}
- WARNING
Group [B29C 70/304](#) is incomplete pending reclassification of documents from group [B29C 70/30](#).
Groups [B29C 70/30](#) and [B29C 70/304](#) should be considered in order to perform a complete search.
- U B29C 70/40 . . . Shaping or impregnating by compression ([B29C 70/34](#) takes precedence) {not applied}
- U B29C 70/42 . . . for producing articles of definite length, i.e. discrete articles
- C B29C 70/46 . . . using matched moulds, e.g. for deforming sheet moulding compounds [SMC] or prepregs
- WARNING
Group [B29C 70/46](#) is impacted by reclassification into group [B29C 70/461](#).
Groups [B29C 70/46](#) and [B29C 70/461](#) should be considered in order to perform a complete search.
- N B29C 70/461 . . . {Rigid movable compressing mould parts acting independently from opening or closing action of the main mould}
- WARNING
Group [B29C 70/461](#) is incomplete pending reclassification of documents from group [B29C 70/46](#).
Groups [B29C 70/46](#) and [B29C 70/461](#) should be considered in order to perform a complete search.
- C B29C 70/54 . . . Component parts, details or accessories; Auxiliary operations {, e.g. feeding or storage of prepregs or SMC after impregnation or during ageing (~~pretreatment, e.g. impregnation, of reinforcements B29B 15/08~~)}
- WARNING
Group [B29C 70/54](#) is impacted by reclassification into groups [B29C 70/544](#) and [B29C 70/549](#).
Groups [B29C 70/54](#), [B29C 70/544](#) and [B29C 70/549](#) should be considered in order to perform a complete search.
- U B29C 70/543 . . . {Fixing the position or configuration of fibrous reinforcements before or during moulding (for non-woven fabrics [D04H 3/08](#))}
- N B29C 70/544 . . . {Details of vacuum bags, e.g. materials or shape}
- WARNING
Group [B29C 70/544](#) is incomplete pending reclassification of documents from group [B29C 70/54](#).
Groups [B29C 70/54](#) and [B29C 70/544](#) should be considered in order to perform a complete search.
- U B29C 70/546 . . . {Measures for feeding or distributing the matrix material in the reinforcing structure}

- U B29C 70/548 {using distribution constructions, e.g. channels incorporated in or associated with the mould}
- N B29C 70/549 {Details of caul plates, e.g. materials or shape}
- WARNING
 Group [B29C 70/549](#) is incomplete pending reclassification of documents from group [B29C 70/54](#).
 Groups [B29C 70/54](#) and [B29C 70/549](#) should be considered in order to perform a complete search.

Project: RP0676 (B29D)

- U B29D 99/00 **Subject matter not provided for in other groups of this subclass**
- C B29D 99/0003 . {Producing profiled members, e.g. beams}
- WARNING
 Group [B29D 99/0003](#) is impacted by reclassification into group [B29D 99/0005](#). Groups [B29D 99/0003](#) and [B29D 99/0005](#) should be considered in order to perform a complete search.
- N B29D 99/0005 . . {Producing noodles, i.e. composite gap fillers, characterised by their construction}
- WARNING
 Group [B29D 99/0005](#) is incomplete pending reclassification of documents from group [B29D 99/0003](#).
 Groups [B29D 99/0003](#) and [B29D 99/0005](#) should be considered in order to perform a complete search.

Project: RP0351 (B32B)

- M B32B 5/00 **Layered products characterised by the non- homogeneity or physical structure {, i.e. comprising a fibrous, filamentary, particulate or foam layer; Layered products characterised by having a layer differing constitutionally or physically in different parts}**
- NOTE
 In this group, fibres, filaments, granules, or powder forming or included in a layer may be impregnated, bonded together, or embedded in a substance such as synthetic resin. If the substance of the fibres, or the like, or the impregnating, bonding, or embedding substance, is important it is classified in the relevant group for the substance.
- M B32B 5/02 . characterised by structural features of a {fibrous or filamentary ~~layer~~ layer {(layer formed of metallic wires [B32B 15/02](#); layer formed of natural mineral fibres [B32B 19/02](#); layer formed of wood fibres [B32B 21/02](#); ~~coated or impregnated fibrous or filamentary layer B32B 2255/02 or B32B 2260/021~~)}
- NOTE
 1. This group ~~covers~~ covers, in addition to filamentary and fibrous layers as defined in Note (4) following the title of this subclass, layers of substances having an intrinsic fibrous nature (e.g. paper, wood), if the fibrous nature is important and the particular substance is not important.
 2. ~~{When classifying in group B32B 5/02, the chemical composition of the fibres is further classified by using the indexing codes B32B 2262/00 - B32B 2262/14, whenever appropriate.}~~
 2. {When classifying in group [B32B 5/02](#), the chemical composition of the fibres is further classified by using the Indexing symbols [B32B 2262/00](#) - [B32B 2262/16](#).}

- C B32B 5/06
- characterised by a fibrous {or filamentary} layer {mechanically connected, e.g. by needling, ~~sewing, stitching, hydroentangling, hook and loop-type fasteners~~} to another layer, e.g. of fibres, of paper
- WARNING
 Group [B32B 5/06](#) is impacted by reclassification into groups [B32B 5/067](#) and [B32B 5/073](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- N B32B 5/067
- {characterised by the fibrous or filamentary layer being mechanically connected by hydroentangling}
- WARNING
 Group [B32B 5/067](#) is incomplete pending reclassification of documents from group [B32B 5/06](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- N B32B 5/073
- {characterised by the fibrous or filamentary layer being mechanically connected to another layer by sewing, stitching, hook-and-loop fastening or stitchbonding}
- WARNING
 Group [B32B 5/073](#) is incomplete pending reclassification of documents from group [B32B 5/06](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B32B 5/16
- characterised by features of a layer formed of particles, e.g. chips, powder {~~or~~ granules ([B32B 21/02](#) takes precedence; ~~layers formed of natural mineral particles B32B 19/00; coated or impregnated particulate layers B32B 2255/04 or B32B 2260/025~~ layer formed of natural mineral particles [B32B 19/00](#); layer being formed of wood fibres, chips or particles [B32B 21/02](#))}
- M B32B 5/22
- characterised by the presence of two or more layers which {are next to each other and are fibrous, filamentary, formed of particles or foamed (~~B32B 19/06; B32B 19/048 B32B 19/047; B32B 29/005 – B32B 29/04 take precedence~~ layer formed of natural mineral fibres or particles next to a foam layer [B32B 19/047](#), next to a layer made of particles [B32B 19/048](#), or next to a fibrous or filamentary layer [B32B 19/06](#); paper layer or cardboard layer next to a paper layer or cardboard layer [B32B 29/005](#), next to a foam layer [B32B 29/007](#), next to a fibrous or filamentary layer [B32B 29/02](#), or next to a particulate layer [B32B 29/04](#))}
- U B32B 5/24
- one layer being a fibrous or filamentary layer
- C B32B 5/26
- another layer {next to it} also being fibrous or filamentary {(relative arrangement of fibres or filaments of different layers [B32B 5/12](#); ~~all layers being fibrous or filamentary B32B 2250/20; two or more impregnated fibrous or filamentary layers B32B 2260/023~~)}
- WARNING
 Group [B32B 5/26](#) is impacted by reclassification into groups [B32B 5/262](#), [B32B 5/263](#), [B32B 5/265](#), [B32B 5/266](#), [B32B 5/267](#), [B32B 5/268](#), [B32B 5/269](#), [B32B 5/271](#), [B32B 5/273](#), [B32B 5/275](#), [B32B 5/277](#), [B32B 5/279](#) and [B32B 5/2795](#).
 All groups listed in this Warning should be considered in order to perform a complete search.

- N B32B 5/262 . . . {characterised by one fibrous or filamentary layer being a woven fabric layer}
- WARNING
Groups [B32B 5/262](#) and [B32B 5/263](#) are incomplete pending reclassification of documents from group [B32B 5/26](#).
Groups [B32B 5/26](#), [B32B 5/262](#) and [B32B 5/263](#) should be considered in order to perform a complete search.
- N B32B 5/263 {next to one or more woven fabric layers}
- N B32B 5/265 {characterised by one fibrous or filamentary layer being a non-woven fabric layer}
- WARNING
Groups [B32B 5/265](#), [B32B 5/266](#), [B32B 5/267](#), [B32B 5/268](#), [B32B 5/269](#), [B32B 5/271](#) and [B32B 5/273](#) are incomplete pending reclassification of documents from group [B32B 5/26](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N B32B 5/266 {next to one or more non-woven fabric layers}
- N B32B 5/267 {characterised by at least one non-woven fabric layer that is a spunbonded fabric}
- N B32B 5/268 {characterised by at least one non-woven fabric layer that is a melt-blown fabric}
- N B32B 5/269 {characterised by at least one non-woven fabric layer that is a melt-blown fabric next to a non-woven fabric layer that is a spunbonded fabric}
- N B32B 5/271 {characterised by separate non-woven fabric layers that comprise chemically different strands or fibre material}
- N B32B 5/273 {including a separate net structure layer}
- N B32B 5/275 {characterised by one woven fabric layer next to a non-woven fabric layer}
- WARNING
Groups [B32B 5/275](#) and [B32B 5/277](#) are incomplete pending reclassification of documents from group [B32B 5/26](#).
Groups [B32B 5/26](#), [B32B 5/275](#) and [B32B 5/277](#) should be considered in order to perform a complete search.
- N B32B 5/277 {including an additional non-woven fabric layer}
- N B32B 5/279 {characterised by a knit fabric layer next to a non-woven fabric layer}
- WARNING
Group [B32B 5/279](#) is incomplete pending reclassification of documents from group [B32B 5/26](#).
Groups [B32B 5/26](#) and [B32B 5/279](#) should be considered in order to perform a complete search.
- N B32B 5/2795 {characterised by a knit fabric layer next to a woven fabric layer}
- WARNING
Group [B32B 5/2795](#) is incomplete pending reclassification of documents from group [B32B 5/26](#).
Groups [B32B 5/26](#) and [B32B 5/2795](#) should be considered in order to perform a complete search.
- M B32B 5/32 . . {at least two} layers being foamed {and next to each other-~~all layers being foamed B32B 2250/22~~}

- U B32B 7/00** Layered products characterised by the relation between layers; Layered products characterised by the relative orientation of features between layers, or by the relative values of a measurable parameter between layers, i.e. products comprising layers having different physical, chemical or physicochemical properties; Layered products characterised by the interconnection of layers
- U B32B 7/04 • Interconnection of layers
- U B32B 7/08 • • by mechanical means
- WARNING
Group [B32B 7/08](#) is impacted by reclassification into group [B32B 7/09](#). Groups [B32B 7/08](#) and [B32B 7/09](#) should be considered in order to perform a complete search.
- B32B 7/09 • • • by stitching, needling or sewing (~~by needling fibrous layers B32B 5/06~~ *by {mechanically connecting} fibrous layers {to another layer} B32B 5/06*)
- WARNING
Group [B32B 7/09](#) is incomplete pending reclassification of documents from group [B32B 7/08](#). Groups [B32B 7/08](#) and [B32B 7/09](#) should be considered in order to perform a complete search.
- M B32B 2262/00** Composition *or structural features* of fibres which form a fibrous or filamentary layer or are present as additives
- M B32B 2262/12 • Conjugate fibres, e.g. core/sheath; *or* side-by-side
- N B32B 2262/124 • • *Non-woven fabric*
- N B32B 2262/128 • • *Woven fabric*
- N B32B 2262/132 • • *Knitted fabric*
- N B32B 2262/136 • • *Net structure*
- U B32B 2262/14 • Mixture of at least two fibres made of different materials
- N B32B 2262/144 • • *Non-woven fabric*
- N B32B 2262/148 • • *Woven fabric*
- N B32B 2262/152 • • *Knitted fabric*
- N B32B 2262/156 • • *Net structure*
- N B32B 2262/16 • *Structural features of fibres, filaments or yarns e.g. wrapped, coiled, crimped or covered*

Project: RP0515 (B65H)

- U B65H 75/00** Storing webs, tapes, or filamentary material, e.g. on reels (fishing reels [A01K 89/00](#); storing means for record carriers, specially adapted for cooperation with the recording or reproducing apparatus [G11B 23/02](#))
- M B65H 75/02 • Cores, formers, supports, or holders for coiled, wound, or folded material, e.g. reels, spindles, bobbins, cop tubes, cans *{, mandrels or chucks}* (packaging aspects [B65D 85/67](#))
- U B65H 75/18 • • Constructional details
- C B65H 75/22 • • • collapsible; with removable parts

WARNING

Group B65H 75/22 is impacted by reclassification into groups [B65H 75/2209](#), [B65H 75/2218](#), [B65H 75/2227](#), [B65H 75/2236](#), [B65H 75/2245](#), [B65H 75/2254](#), [B65H 75/2263](#), [B65H 75/2272](#), [B65H 75/2281](#) and [B65H 75/229](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N B65H 75/2209 . . . {collapsible by use of hinged or slidable parts; foldable without removing parts}
WARNING
Group [B65H 75/2209](#) is incomplete pending reclassification of documents from group [B65H 75/22](#).
Groups [B65H 75/22](#) and [B65H 75/2209](#) should be considered in order to perform a complete search.
- N B65H 75/2218 . . . {Collapsible hubs}
WARNING
Groups [B65H 75/2218](#) and [B65H 75/2227](#) are incomplete pending reclassification of documents from group [B65H 75/22](#).
Groups [B65H 75/22](#), [B65H 75/2218](#) and [B65H 75/2227](#) should be considered in order to perform a complete search.
- N B65H 75/2227 . . . {with a flange fixed to the hub part}
- N B65H 75/2236 . . . {Collapsible flanges}
WARNING
Group [B65H 75/2236](#) is incomplete pending reclassification of documents from group [B65H 75/22](#).
Groups [B65H 75/22](#) and [B65H 75/2236](#) should be considered in order to perform a complete search.
- N B65H 75/2245 . . . {connecting flange to hub}
WARNING
Group [B65H 75/2245](#) is incomplete pending reclassification of documents from group [B65H 75/22](#).
Groups [B65H 75/22](#) and [B65H 75/2245](#) should be considered in order to perform a complete search.
- N B65H 75/2254 . . . {with particular joining means for releasably connecting parts}
WARNING
Groups [B65H 75/2254](#), [B65H 75/2263](#), [B65H 75/2272](#), [B65H 75/2281](#) and [B65H 75/229](#) are incomplete pending reclassification of documents from group [B65H 75/22](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N B65H 75/2263 . . . {Discrete fasteners, e.g. bolts or screws}
- N B65H 75/2272 . . . {releasably connected by relative rotatable movement of parts, e.g. threaded or bayonet fit}
- N B65H 75/2281 . . . {Snap-fit connections}
- N B65H 75/229 . . . {Bendable tabs being deformable over a cooperating surface}
- C B65H 75/24 . . . adjustable in configuration, e.g. expandible
WARNING
Group [B65H 75/24](#) is impacted by reclassification into group [B65H 75/2495](#).
Groups [B65H 75/24](#) and [B65H 75/2495](#) should be considered in order to perform a complete search.

- C B65H 75/241 {axially adjustable reels or bobbins}
- WARNING
Group [B65H 75/241](#) is impacted by reclassification into groups [B65H 75/2413](#) and [B65H 75/2416](#).
Groups [B65H 75/241](#), [B65H 75/2413](#) and [B65H 75/2416](#) should be considered in order to perform a complete search.
- N B65H 75/2413 {adjustable by threaded means}
- WARNING
Group [B65H 75/2413](#) is incomplete pending reclassification of documents from group [B65H 75/241](#).
Groups [B65H 75/241](#) and [B65H 75/2413](#) should be considered in order to perform a complete search.
- N B65H 75/2416 {with axial positions defined by discrete locations}
- WARNING
Group [B65H 75/2416](#) is incomplete pending reclassification of documents from group [B65H 75/241](#).
Groups [B65H 75/241](#) and [B65H 75/2416](#) should be considered in order to perform a complete search.
- C B65H 75/242 {Expansible spindles, mandrels or chucks, e.g. for securing or releasing cores, holders or packages (~~expansible mandrels for machine tools B23B 31/00~~)}
- WARNING
Group [B65H 75/242](#) is impacted by reclassification into groups [B65H 75/243](#), [B65H 75/2437](#), [B65H 75/245](#), [B65H 75/2455](#), [B65H 75/246](#), [B65H 75/247](#), [B65H 75/248](#), [B65H 75/2484](#), [B65H 75/2487](#), [B65H 75/249](#) and [B65H 75/2495](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- C B65H 75/243 {~~comprising a fluid pressure-actuated elastic member, e.g. a diaphragm or a pneumatic tube~~ *actuated by use of a fluid*}
- WARNING
Group [B65H 75/243](#) is incomplete pending reclassification of documents from group [B65H 75/242](#).
Group [B65H 75/243](#) is also impacted by reclassification into group [B65H 75/2437](#).
Groups [B65H 75/242](#), [B65H 75/243](#) and [B65H 75/2437](#) should be considered in order to perform a complete search.
- N B65H 75/2437 {comprising a fluid-pressure-actuated elastic member, e.g. a diaphragm or a pneumatic tube}
- WARNING
Group [B65H 75/2437](#) is incomplete pending reclassification of documents from groups [B65H 75/242](#) and [B65H 75/243](#).
Groups [B65H 75/242](#), [B65H 75/243](#) and [B65H 75/2437](#) should be considered in order to perform a complete search.
- C B65H 75/245 {by deformation of an elastic or flexible material ([B65H 75/2437](#) takes precedence)}
- WARNING
Group [B65H 75/245](#) is incomplete pending reclassification of documents from group [B65H 75/242](#).

Group [B65H 75/245](#) is also impacted by reclassification into group [B65H 75/2455](#).

Groups [B65H 75/242](#), [B65H 75/245](#) and [B65H 75/2455](#) should be considered in order to perform a complete search.

- N [B65H 75/2455](#) {deformation resulting from axial compression of elastic or flexible material}

WARNING

Group [B65H 75/2455](#) is incomplete pending reclassification of documents from groups [B65H 75/242](#) and [B65H 75/245](#).

Groups [B65H 75/242](#), [B65H 75/245](#) and [B65H 75/2455](#) should be considered in order to perform a complete search.

- C [B65H 75/246](#) {~~expansion caused~~ by relative rotation ~~of the clamping elements and the supporting spindle or core~~ around the supporting spindle or core axis}

WARNING

Group [B65H 75/246](#) is incomplete pending reclassification of documents from group [B65H 75/242](#).

Group [B65H 75/246](#) is also impacted by reclassification into group [B65H 75/249](#).

Groups [B65H 75/242](#), [B65H 75/246](#) and [B65H 75/249](#) should be considered in order to perform a complete search.

- C [B65H 75/247](#) {using rollers or rods moving relative to a wedge or cam surface}

WARNING

Group [B65H 75/247](#) is incomplete pending reclassification of documents from group [B65H 75/242](#).

Group [B65H 75/247](#) is also impacted by reclassification into group [B65H 75/249](#).

Groups [B65H 75/242](#), [B65H 75/247](#) and [B65H 75/249](#) should be considered in order to perform a complete search.

- C [B65H 75/248](#) {~~with clamping elements linked to the spindle~~ ~~expansion caused by actuator movable in axial direction~~}

WARNING

Group [B65H 75/248](#) is incomplete pending reclassification of documents from group [B65H 75/242](#).

Group [B65H 75/248](#) is also impacted by reclassification into groups [B65H 75/2484](#) and [B65H 75/2487](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N [B65H 75/2484](#) {movable actuator including wedge-like or lobed member}

WARNING

Group [B65H 75/2484](#) is incomplete pending reclassification of documents from groups [B65H 75/242](#) and [B65H 75/248](#).

Groups [B65H 75/242](#), [B65H 75/248](#) and [B65H 75/2484](#) should be considered in order to perform a complete search.

- N [B65H 75/2487](#) {comprising a linkage}

WARNING

Group [B65H 75/2487](#) is incomplete pending reclassification of documents from groups [B65H 75/242](#) and [B65H 75/248](#).

Groups [B65H 75/242](#), [B65H 75/248](#) and [B65H 75/2487](#) should be considered in order to perform a complete search.

- N B65H 75/249 • • • • {expansion caused by actuator movable in direction perpendicular to or about the axis ([B65H 75/243](#) – [B65H 75/2487](#) take precedence)}

WARNING

Group [B65H 75/249](#) is incomplete pending reclassification of documents from groups [B65H 75/242](#), [B65H 75/246](#) and [B65H 75/247](#). All groups listed in this Warning should be considered in order to perform a complete search.

- N B65H 75/2495 • • • • {including plural segments or spokes which are individually adjustable}

WARNING

Group [B65H 75/2495](#) is incomplete pending reclassification of documents from groups [B65H 75/24](#) and [B65H 75/242](#). Groups [B65H 75/24](#), [B65H 75/242](#) and [B65H 75/2495](#) should be considered in order to perform a complete search.

Project: RP0563 (C04B)

- C C04B 12/00 **Cements not provided for in groups [C04B 7/00](#) - [C04B 11/00](#)**

WARNING

Group [C04B 12/00](#) is impacted by reclassification into group [C04B 12/007](#). Groups [C04B 12/00](#) and [C04B 12/007](#) should be considered in order to perform a complete search.

- U C04B 12/005 • {Geopolymer cements, e.g. reaction products of aluminosilicates with alkali metal hydroxides or silicates}
- N C04B 12/007 • {Non-hydraulic cements containing low lime calcium silicate phases, e.g. wollastonite, pseudowollastonite, rankinite or cements curable in the presence of CO₂}

WARNING

Group [C04B 12/007](#) is incomplete pending reclassification of documents from group [C04B 12/00](#). Groups [C04B 12/00](#) and [C04B 12/007](#) should be considered in order to perform a complete search.

- U C04B 22/00 **Use of inorganic materials as active ingredients for mortars, concrete or artificial stone, e.g. accelerators {, shrinkage compensating agents}**

- C C04B 22/0086 • {Seeding materials}

WARNING

Group [C04B 22/0086](#) is impacted by reclassification into groups [C04B 22/00863](#) and [C04B 22/00867](#). Groups [C04B 22/0086](#), [C04B 22/00863](#) and [C04B 22/00867](#) should be considered in order to perform a complete search.

- N C04B 22/00863 • • {Calcium silicate hydrate}
- WARNING
- Group [C04B 22/00863](#) is incomplete pending reclassification of documents from group [C04B 22/0086](#). Groups [C04B 22/0086](#) and [C04B 22/00863](#) should be considered in order to perform a complete search.

- N C04B 22/00867 • • {Ettringite}
- WARNING
- Group [C04B 22/00867](#) is incomplete pending reclassification of documents from group [C04B 22/0086](#).

Groups [C04B 22/0086](#) and [C04B 22/00867](#) should be considered in order to perform a complete search.

U C04B 26/00 Compositions of mortars, concrete or artificial stone, containing only organic binders {, e.g. polymer or resin concrete (mechanical aspects of moulding polymer or resin concrete [B29C 67/242](#))}

U C04B 26/02 • Macromolecular compounds

M C04B 26/28 • • Polysaccharides or derivatives thereof

WARNING

Group [C04B 26/28](#) is incomplete pending reclassification of documents from group [C04B 26/285](#).

Groups [C04B 26/285](#) and [C04B 26/28](#) should be considered in order to perform a complete search.

C C04B 26/285 • • • {Cellulose or derivatives thereof, ~~e.g. starch~~ ([C04B 26/24](#) takes precedence)}

WARNING

Group [C04B 26/285](#) is impacted by reclassification into group [C04B 26/28](#). Groups [C04B 26/285](#) and [C04B 26/28](#) should be considered in order to perform a complete search.

Project: MP0316 (C08J)

M C08J **WORKING-UP; GENERAL PROCESSES OF COMPOUNDING; AFTER-TREATMENT NOT COVERED BY SUBCLASSES [C08B](#), [C08C](#), [C08F](#), [C08G](#) or [C08H](#) (mechanical aspects [B29](#); layered products, manufacture thereof [B32B](#); treatment of macromolecular material specially adapted to enhance its filling properties in mortars, concrete or artificial stone ~~C04B 16/04~~, ~~C04B 18/20~~, ~~C04B 20/00~~; treatment of textiles [D06](#) working, e.g. shaping, of plastics [B29](#))**

NOTES

1. This subclass covers processes, not covered by subclasses [C08B](#) - [C08H](#), for treating polymers.

In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place.

2. When classifying in subclass [C08J](#), the treatment of specific polymers is indicated using indexing codes chosen from [C08J 2300/00](#) or subgroups thereof.

Example:

- Preparation of particles of polystyrene by impregnation of the particles with the blowing agent: [C08J 9/18](#) and [C08J 2325/06](#).

3. The use of a polymeric component in minority, e.g. masterbatch, coating, impregnating agent or thin binder is indicated using indexing codes chosen from [C08J 2400/00](#) or subgroups thereof.

Examples:

- Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/10](#)
- Bonding of polystyrene by heating: [C08J 5/121](#) and [C08J 2325/06](#)
- Coating of a polyethylene substrate with a polyurethane coating: [C08J 7/0427](#) and [C08J 2323/06](#) and [C08J 2475/04](#)
- Use of ABS as an additive for foamed polyacrylamide : [C08J 9/0061](#) and [C08J 2333/26](#) and [C08J 2455/02](#)

4. In the following subgroups, the codes of [C08J 2300/00](#) - [C08J 2399/00](#) are used to specify:

- [C08J 3/226](#): the polymeric material to which the masterbatch carrier is added.
- [C08J 7/0427](#): the polymeric substrate to be coated.
- [C08J 9/0061](#): the polymeric component in majority in a multicomponents foamable blend.

5. Group [C08J 2400/00](#) was introduced on January 1st, 2012. Patent documents are continuously being reclassified. As a consequence, documents published before 01/01/2012, and to which [C08J 2400/00](#) indexing codes were allocated, are indexed in the corresponding head group.

Example:

- Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/00](#), instead of [C08J 2433/10](#).

6. In the following subgroups, the codes of [C08J 2400/00](#) - [C08J 2499/00](#) are used to specify:

- [C08J 3/226](#): the polymeric carrier in a masterbatch.
- [C08J 5/12](#): the chemical nature of the adhesive
- [C08J 7/0427](#): the chemical nature of the coating(s).
- [C08J 9/0061](#): the polymeric component in minority in a multicomponents foamable blend.
- [C08J 9/224](#), [C08J 9/236](#), [C08J 9/36](#), [C08J 9/40](#) and [C08J 9/42](#): the polymer used for coating, binding, or impregnating the foam. [C08J 9/26](#): the polymer to be leached out.
- [C08J 9/33](#) and [C08J 9/35](#): the foam fragments included in the (foamable) polymer matrix.
- in all other subgroups, when the presence of a polymeric component in minority is of relevance.

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C08J 5/14](#) covered by [B24D 3/22](#), [B24D 3/28](#),
[F16D 69/02](#)

[C08J 5/16](#) covered by [C10N 2050/14](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U C08J 3/00

M C08J 3/02

M C08J 3/12

M C08J 3/124

M C08J 3/126

M C08J 3/128

M C08J 3/16




M C08J 3/24

Processes of treating or compounding macromolecular substances

- Making solutions, dispersions ~~or lattices~~, *lattices or gels* by other methods than by solution, emulsion or suspension polymerisation techniques
- Powdering or granulating ~~{(preparation of active ingredients, e.g. medical preparations in form of capsules A61K 9/51; making granules B29B 9/00)}~~
- {Treatment for improving the free-flowing characteristics ~~(agglomerates, granulates or microbeadlets A61K 9/16; process or devices for granulating material, e.g. non-sticking properties B01J 2/30; auxiliary treatment of particle B29B 9/16)}~~
- {Polymer particles coated by polymer, e.g. core shell structures ~~(process or devices for granulating material, e.g. coating B01J 2/003)}~~
- {Polymer particles coated by inorganic and ~~organic compounds~~ *non-macromolecular organic compounds*} ~~(macromolecules C08J 3/126)}~~
- by coagulating dispersions ~~{(C08J 3/122 takes precedence; treatment of polymer emulsion, e.g. coagulation C08F 6/22)}~~
- Crosslinking, e.g. vulcanising, of macromolecules (mechanical aspects [B29C 35/00](#); crosslinking agents [C08K](#) ~~{; crosslinking aspects not classifiable in C08G, C08F, C08K; compounding C08J 3/20}~~)

- M C08J 3/241
- {Preventing premature crosslinking by physical separation of components, e.g. encapsulation ~~(of other ingredients C08K 9/00)~~}

Project: RP0337 (C08J)

- M C08J 5/00 **Manufacture of articles or shaped materials containing macromolecular substances (~~shaping of foodstuffs A23P~~; manufacture of semi-permeable membranes [B01D 67/00](#) - [B01D 71/00](#); ~~mechanical features, see the relevant classes, e.g. B29~~)**
- M C08J 5/005
- {Reinforced macromolecular compounds with nanosized materials, e.g. nanoparticles, nanofibres, nanotubes, nanowires, nanorods or nanolayered materials ~~(use of ingredients characterised by shape C08K 7/00; nanotechnology for materials and surface science B82Y 30/00)~~}
- M C08J 5/04
- Reinforcing macromolecular compounds with loose or coherent fibrous material ~~(after-treatment of threads during manufacture D01F; {finishing of textiles D06M})~~
- N C08J 5/0405
- {with inorganic fibres}
- M C08J 5/041
- •  {with metal fibres}
- M C08J 5/042
- •  {with carbon fibres}
- M C08J 5/043
- •  {with glass fibres}
- D C08J 5/044
- {with other inorganic fibres}
- <administratively transferred to [C08J 5/0405](#)>
- M C08J 5/12
- Bonding of a preformed macromolecular material to the same or other solid material such as metal, glass, leather, e.g. using adhesives ~~{{mechanical aspects B29C 65/00}}~~
- M C08J 5/124
- {using adhesives based on a macromolecular component ~~(adhesive compositions per se C09J 4/00, C09J 101/00 - C09J 201/00)~~}
- M C08J 5/18
- Manufacture of films or sheets ~~{{(producing films or sheets B29D 7/01; wrappers or flexible covers, packaging materials of special type or form B65D 65/00 - B65D 65/466; shaping by stretching characterized by the choice of materials B29C 55/005; layered products essentially comprising synthetic resin B32B 27/00 - B32B 27/42)}~~
- M C08J 5/20
- Manufacture of shaped structures of ion-exchange resins ~~{{(use of macromolecular compounds as cation exchangers B01J 39/20; use of macromolecular compounds as anion exchangers B01J 41/14)}~~
- M C08J 5/22
- • Films, membranes, or diaphragms ~~{{(ion-exchange in general, B01J 39/18 - B01J 39/22, B01J 41/12 - B01J 41/16, B01J 43/00, B01J 45/00, B01J 47/12 - B01J 49/00; fuel cells with polymeric electrolyte material H01M 8/1018)}~~

NOTES

1. {Membranes of which at least the ion-exchanging parts are inorganic, i.e. mixtures of non polymeric ion exchange compounds, e.g. inorganic salts,

and at least one polymer are classified in [C08J 5/22](#); membranes based on cellulose are classified in [C08J 5/2212](#).)

2. Methods for incorporating reinforcement supports or filling bodies are classified in [C08J 5/2206](#) (the support or filling body has no ion exchange activity).

3. Groups, e.g. SO₂F, which do not have ion-exchanging properties, but which may, by simple hydrolysis in an alkaline, neutral or acid medium, be transformed into ion-exchanging groups, e.g. SO₂H, are considered as such.

4. Ion-exchanging fibrous fabrics are considered as heterogeneous membranes and are classified in [C08J 5/2275](#); they include composite membranes, mixtures of two or more (ion exchange) polymers.

5. Membranes obtained by homogeneous melting or from a solution are considered as homogeneous, even if the membrane contains (after solidification of the melt or the solution) heterogeneous elements, e.g. filling bodies, supports e.g. in the form of fabrics, or the like, i.e. the ion exchange resin forms the membrane.

6. Reactions which change the nature of the ion-exchanging groups, introduction of ion-exchanging groups, after-treatment (membrane has already been formed) are classified in [C08J 5/2287](#).

7. Quaternising reactions are not considered as after-treatments.

C C08J 5/24

- Impregnating materials with prepolymers which can be polymerised *in situ*, e.g. manufacture of preregs

NOTE

{In groups [C08J 5/24](#) - [C08J 5/249](#), the last place priority rule is not applied, i.e. the common rule is applied.}

WARNING

Group [C08J 5/24](#) is impacted by reclassification into groups [C08J 5/24](#), [C08J 5/241](#), [C08J 5/242](#), [C08J 5/243](#), [C08J 5/244](#), [C08J 5/245](#), [C08J 5/246](#), [C08J 5/247](#), [C08J 5/248](#) and [C08J 5/249](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N C08J 5/241

- {using inorganic fibres}

WARNING

Group [C08J 5/241](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).

Groups [C08J 5/24](#) and [C08J 5/241](#) should be considered in order to perform a complete search.

N C08J 5/242

- {using metal fibres}

WARNING

Group [C08J 5/242](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).

Groups [C08J 5/24](#) and [C08J 5/242](#) should be considered in order to perform a complete search.

N C08J 5/243

- {using carbon fibres}

WARNING

Group [C08J 5/243](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).

Groups [C08J 5/24](#) and [C08J 5/243](#) should be considered in order to perform a complete search.

- N C08J 5/244
- • {using glass fibres}
- WARNING
Group [C08J 5/244](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).
Groups [C08J 5/24](#) and [C08J 5/244](#) should be considered in order to perform a complete search.
- N C08J 5/245
- • {using natural fibres}
- WARNING
Group [C08J 5/245](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).
Groups [C08J 5/24](#) and [C08J 5/245](#) should be considered in order to perform a complete search.
- N C08J 5/246
- • {using polymer based synthetic fibres}
- WARNING
Group [C08J 5/246](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).
Groups [C08J 5/24](#) and [C08J 5/246](#) should be considered in order to perform a complete search.
- N C08J 5/247
- • {using fibres of at least two types}
- WARNING
Group [C08J 5/247](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).
Groups [C08J 5/24](#) and [C08J 5/247](#) should be considered in order to perform a complete search.
- N C08J 5/248
- • {using pre-treated fibres}
- WARNING
Group [C08J 5/248](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).
Groups [C08J 5/24](#) and [C08J 5/248](#) should be considered in order to perform a complete search.
- N C08J 5/249
- • {characterised by the additives used in the prepolymer mixture}
- WARNING
Group [C08J 5/249](#) is incomplete pending reclassification of documents from group [C08J 5/24](#).
Groups [C08J 5/24](#) and [C08J 5/249](#) should be considered in order to perform a complete search.

Project: MP0316 (C08J)

- U C08J 7/00
- Chemical treatment or coating of shaped articles made of macromolecular substances (coating with metallic material [C23C](#); electrolytic deposition of metals [C25](#))**
- U C08J 7/12
- Chemical modification
- M C08J 7/123
- • {Treatment by wave energy or particle radiation ([C08J 7/18](#) takes precedence; ~~surface-shaping of articles by plasma treatment B29C 59/14, by wave energy or particle radiation B29C 59/16~~)}

- M C08J 9/00** Working-up of macromolecular substances to porous or cellular articles or materials; After-treatment thereof (mechanical aspects **B29C 44/00** of *shaping of plastics or substances in a plastic state for the production of porous or cellular articles B29C*; **foamed polymeric products of isocyanates or isothiocyanates characterised by the monomers or catalysts used C08G 18/00**)
- NOTE**
In groups [C08J 9/16](#) - [C08J 9/22](#), the following term is used with the meaning indicated:
- "expandable" includes also expanding, pre-expanded or expanded.
- {This Note corresponds to IPC Note (1) relating to [C08J 9/16](#) - [C08J 9/22](#).}
- M C08J 9/32** • from compositions containing microballoons, e.g. syntactic foams (~~making microballoons B01J 13/02~~)
- M C08J 9/36** • After-treatment ([C08J 9/22](#) takes precedence)
- M C08J 11/00** Recovery or working-up of waste materials (*recovery of plastics B29B 17/00*; polymerisation processes involving purification or recycling of waste polymers or their depolymerisation products [C08B](#), [C08C](#), [C08F](#), [C08G](#), [C08H](#); **mechanical treatments B29**)
- U C08J 11/04** • of polymers
- U C08J 11/06** • without chemical reactions
- M C08J 11/08** • • using selective solvents for polymer components (~~working-up tar by extraction with selective solvents C10C 1/18; working-up pitch, asphalt, bitumen by selective extraction C10C 3/08~~)
- M C08J 11/10** • • by chemically breaking down the molecular chains of polymers or breaking of crosslinks, e.g. devulcanisation (depolymerisation to the original monomer [C07](#); ~~production of liquid hydrocarbon mixtures from rubber or rubber waste C10G 1/10; {depolymerisation of halogenated hydrocarbon polymers C07C 17/367; depolymerisation of polyesters, C07C 51/09, C07C 63/26; depolymerisation of polyamides C07D 201/12; depolymerisation of rubber C08C 19/08}~~)
- M C08J 11/12** • • by dry-heat treatment only (~~destructive distillation of carbonaceous materials for production of gas, coke, tar or similar matters C10B~~)
- M C08J 2353/00** Characterised by the use of **homopolymers or copolymers, obtained by polymerisation** *block copolymers containing at least one sequence of a polymer obtained by* reactions only involving carbon-to-carbon unsaturated bonds, **not provided for in groups C08J 2323/00 - C08J 2353/00; Derivatives of such polymers**
- M C08J 2453/00** Characterised by the use of **homopolymers or copolymers, obtained by polymerisation** *block copolymers containing at least one sequence of a polymer obtained by* reactions only involving carbon-to-carbon unsaturated bonds, **not provided for in groups C08J 2423/00 - C08J 2453/00; Derivatives of such polymers**

Project: RP0660 (C12N)

- T C12N 1/00** Microorganisms, e.g. protozoa; Compositions thereof (medicinal preparations containing material from **microorganisms** *protozoa, bacteria or viruses A61K 35/66, from algae A61K 36/02, from fungi A61K 36/06*; preparing medicinal bacterial antigen or antibody compositions, e.g. bacterial vaccines, [A61K 39/00](#)); Processes of propagating, maintaining or preserving microorganisms or compositions thereof; Processes of preparing or isolating a composition containing a microorganism; Culture media therefor

- | | | |
|---|------------|---|
| U | C12N 1/10 | • Protozoa; Culture media therefor |
| N | C12N 1/105 | • • { <i>Protozoal isolates</i> } |
| U | C12N 1/12 | • Unicellular algae; Culture media therefor (as new plants A01H 13/00) |
| N | C12N 1/125 | • • { <i>Unicellular algae isolates</i> } |
| M | C12N 1/14 | • Fungi (culture of mushrooms A01G 18/00 ; as new plants per se A01H 15/00 + fungi per se C12R 1/645 - C12R 1/885); Culture media therefor |
| N | C12N 1/145 | • • { <i>Fungal isolates</i> } |
| U | C12N 1/16 | • • Yeasts; Culture media therefor |
| N | C12N 1/165 | • • • { <i>Yeast isolates</i> } |
| U | C12N 1/18 | • • • Baker's yeast; Brewer's yeast |
| N | C12N 1/185 | • • • • { <i>Saccharomyces isolates</i> } |
| M | C12N 1/20 | • Bacteria {(bacteria per se C12R 1/01 - C12R 1/64)} ; Culture media therefor |
| N | C12N 1/205 | • • { <i>Bacterial isolates</i> } |

Project: RP0660 (C12R)

M C12R

**PROCESSES-~~USING~~ INDEXING SCHEME ASSOCIATED WITH
SUBCLASSES C12C - C12Q, RELATING TO MICROORGANISMS**

NOTE

The basis for the bacteria terminology is "Bergey's Manual of Determinative Bacteriology", Eighth Edition, 1975.

WARNING

1. The following IPC indexing groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C12R 1/92 - C12R 1/94 covered by C12R 1/91, C12N 2710/00
- C12N 2795/00
- C12N 2795/18188

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme:

D C12R 1/00

Processes using microorganisms

<administratively transferred to C12R 2001/00 ADD and C12N 1/00 INV>

N C12R 2001/00

Microorganisms {; Processes using microorganisms}

- | | | |
|---|---------------|---|
| D | C12R 1/01 | <ul style="list-style-type: none"> • using bacteria or actinomycetales <p><administratively transferred to C12R 2001/01 ADD and C12N 1/205 INV></p> |
| N | C12R 2001/01 | <ul style="list-style-type: none"> • <i>Bacteria</i> or <i>Actinomycetales</i> {; using <i>bacteria</i> or <i>Actinomycetales</i>} |
| D | C12R 1/02 | <ul style="list-style-type: none"> • • Acetobacter <p><administratively transferred to C12R 2001/02 ADD and C12N 1/205 INV></p> |
| N | C12R 2001/02 | <ul style="list-style-type: none"> • • <i>Acetobacter</i> |
| D | C12R 1/025 | <ul style="list-style-type: none"> • • Achromobacter <p><administratively transferred to C12R 2001/025 ADD and C12N 1/205 INV></p> |
| N | C12R 2001/025 | <ul style="list-style-type: none"> • • <i>Achromobacter</i> |
| D | C12R 1/03 | <ul style="list-style-type: none"> • • Actinomadura <p><administratively transferred to C12R 2001/03 ADD and C12N 1/205 INV></p> |
| N | C12R 2001/03 | <ul style="list-style-type: none"> • • <i>Actinomadura</i> |
| D | C12R 1/04 | <ul style="list-style-type: none"> • • Actinomyces <p><administratively transferred to C12R 2001/04 ADD and C12N 1/205 INV></p> |

N	C12R 2001/04	• • <i>Actinomyces</i>
D	C12R 1/045	• • <i>Actinoplanes</i> <administratively transferred to C12R 2001/045 ADD and C12N 1/205 INV>
N	C12R 2001/045	• • <i>Actinoplanes</i>
D	C12R 1/05	• • <i>Alcaligenes</i> <administratively transferred to C12R 2001/05 ADD and C12N 1/205 INV>
N	C12R 2001/05	• • <i>Alcaligenes</i>
D	C12R 1/06	• • <i>Arthrobacter</i> <administratively transferred to C12R 2001/06 ADD and C12N 1/205 INV>
N	C12R 2001/06	• • <i>Arthrobacter</i>
D	C12R 1/065	• • <i>Azotobacter</i> <administratively transferred to C12R 2001/065 ADD and C12N 1/205 INV>
N	C12R 2001/065	• • <i>Azotobacter</i>
D	C12R 1/07	• • <i>Bacillus</i> <administratively transferred to C12R 2001/07 ADD and C12N 1/205 INV>
N	C12R 2001/07	• • <i>Bacillus</i>
D	C12R 1/075	• • • { <i>Bacillus thuringiensis</i> } <administratively transferred to C12R 2001/075 ADD and C12N 1/205 INV>
N	C12R 2001/075	• • • { <i>Bacillus thuringiensis</i> }
D	C12R 1/08	• • • <i>Bacillus brevis</i> <administratively transferred to C12R 2001/08 ADD and C12N 1/205 INV>
N	C12R 2001/08	• • • <i>Bacillus brevis</i>
D	C12R 1/085	• • • <i>Bacillus cereus</i> <administratively transferred to C12R 2001/085 ADD and C12N 1/205 INV>
N	C12R 2001/085	• • • <i>Bacillus cereus</i>
D	C12R 1/09	• • • <i>Bacillus circulans</i> <administratively transferred to C12R 2001/09 ADD and C12N 1/205 INV>
N	C12R 2001/09	• • • <i>Bacillus circulans</i>
D	C12R 1/10	• • • <i>Bacillus licheniformis</i> <administratively transferred to C12R 2001/10 ADD and C12N 1/205 INV>
N	C12R 2001/10	• • • <i>Bacillus licheniformis</i>
D	C12R 1/11	• • • <i>Bacillus megaterium</i> <administratively transferred to C12R 2001/11 ADD and C12N 1/205 INV>
N	C12R 2001/11	• • • <i>Bacillus megaterium</i>
D	C12R 1/12	• • • <i>Bacillus polymyxa</i> <administratively transferred to C12R 2001/12 ADD and C12N 1/205 INV>
N	C12R 2001/12	• • • <i>Bacillus polymyxa</i> {; <i>Paenibacillus polymyxa</i> }
D	C12R 1/125	• • • <i>Bacillus subtilis</i> <administratively transferred to C12R 2001/125 ADD and C12N 1/205 INV>
N	C12R 2001/125	• • • <i>Bacillus subtilis</i> {; <i>Hay bacillus</i> ; <i>Grass bacillus</i> }
D	C12R 1/13	• • <i>Brevibacterium</i> <administratively transferred to C12R 2001/13 ADD and C12N 1/205 INV>
N	C12R 2001/13	• • <i>Brevibacterium</i>

D	C12R 1/14	<ul style="list-style-type: none"> • • <i>Chainia</i> <administratively transferred to C12R 2001/14 ADD and C12N 1/205 INV>
N	C12R 2001/14	<ul style="list-style-type: none"> • • <i>Chainia</i>
D	C12R 1/145	<ul style="list-style-type: none"> • • <i>Clostridium</i> <administratively transferred to C12R 2001/145 ADD and C12N 1/205 INV>
N	C12R 2001/145	<ul style="list-style-type: none"> • • <i>Clostridium</i>
D	C12R 1/15	<ul style="list-style-type: none"> • • <i>Corynebacterium</i> <administratively transferred to C12R 2001/15 ADD and C12N 1/205 INV>
N	C12R 2001/15	<ul style="list-style-type: none"> • • <i>Corynebacterium</i>
D	C12R 1/16	<ul style="list-style-type: none"> • • • <i>Corynebacterium diphtheriae</i> <administratively transferred to C12R 2001/16 ADD and C12N 1/205 INV>
N	C12R 2001/16	<ul style="list-style-type: none"> • • • <i>Corynebacterium diphtheriae</i>
D	C12R 1/165	<ul style="list-style-type: none"> • • • <i>Corynebacterium poinsettiae</i> <administratively transferred to C12R 2001/165 ADD and C12N 1/205 INV>
N	C12R 2001/165	<ul style="list-style-type: none"> • • • <i>Corynebacterium poinsettiae</i>
D	C12R 1/17	<ul style="list-style-type: none"> • • • <i>Corynebacterium pyogenes</i> <administratively transferred to C12R 2001/17 ADD and C12N 1/205 INV>
N	C12R 2001/17	<ul style="list-style-type: none"> • • • <i>Corynebacterium pyogenes</i> {; <i>Trueperella pyogenes</i>}
D	C12R 1/18	<ul style="list-style-type: none"> • • <i>Erwinia</i> <administratively transferred to C12R 2001/18 ADD and C12N 1/205 INV>
N	C12R 2001/18	<ul style="list-style-type: none"> • • <i>Erwinia</i>
D	C12R 1/185	<ul style="list-style-type: none"> • • <i>Escherichia</i> <administratively transferred to C12R 2001/185 ADD and C12N 1/205 INV>
N	C12R 2001/185	<ul style="list-style-type: none"> • • <i>Escherichia</i>
D	C12R 1/19	<ul style="list-style-type: none"> • • • <i>Escherichia coli</i> <administratively transferred to C12R 2001/19 ADD and C12N 1/205 INV>
N	C12R 2001/19	<ul style="list-style-type: none"> • • • <i>Escherichia coli</i>
D	C12R 1/20	<ul style="list-style-type: none"> • • <i>Flavobacterium</i> <administratively transferred to C12R 2001/20 ADD and C12N 1/205 INV>
N	C12R 2001/20	<ul style="list-style-type: none"> • • <i>Flavobacterium</i>
D	C12R 1/21	<ul style="list-style-type: none"> • • <i>Haemophilus</i> <administratively transferred to C12R 2001/21 ADD and C12N 1/205 INV>
N	C12R 2001/21	<ul style="list-style-type: none"> • • <i>Haemophilus</i>
D	C12R 1/22	<ul style="list-style-type: none"> • • <i>Klebsiella</i> <administratively transferred to C12R 2001/22 ADD and C12N 1/205 INV>
N	C12R 2001/22	<ul style="list-style-type: none"> • • <i>Klebsiella</i>
D	C12R 1/225	<ul style="list-style-type: none"> • • <i>Lactobacillus</i> <administratively transferred to C12R 2001/225 ADD and C12N 1/205 INV>
N	C12R 2001/225	<ul style="list-style-type: none"> • • <i>Lactobacillus</i>
D	C12R 1/23	<ul style="list-style-type: none"> • • • <i>Lactobacillus acidophilus</i> <administratively transferred to C12R 2001/23 ADD and C12N 1/205 INV>
N	C12R 2001/23	<ul style="list-style-type: none"> • • • <i>Lactobacillus acidophilus</i>

D	C12R 1/24	<ul style="list-style-type: none"> • • • <i>Lactobacillus brevis</i> <administratively transferred to C12R 2001/24 ADD and C12N 1/205 INV>
N	C12R 2001/24	<ul style="list-style-type: none"> • • • <i>Lactobacillus brevis</i>
D	C12R 1/245	<ul style="list-style-type: none"> • • • <i>Lactobacillus casei</i> <administratively transferred to C12R 2001/245 ADD and C12N 1/205 INV>
N	C12R 2001/245	<ul style="list-style-type: none"> • • • <i>Lactobacillus casei</i>
D	C12R 1/25	<ul style="list-style-type: none"> • • • <i>Lactobacillus plantarum</i> <administratively transferred to C12R 2001/25 ADD and C12N 1/205 INV>
N	C12R 2001/25	<ul style="list-style-type: none"> • • • <i>Lactobacillus plantarum</i>
D	C12R 1/26	<ul style="list-style-type: none"> • • <i>Methylobacter</i> <administratively transferred to C12R 2001/26 ADD and C12N 1/205 INV>
N	C12R 2001/26	<ul style="list-style-type: none"> • • <i>Methylobacter</i>
D	C12R 1/265	<ul style="list-style-type: none"> • • <i>Micrococcus</i> <administratively transferred to C12R 2001/265 ADD and C12N 1/205 INV>
N	C12R 2001/265	<ul style="list-style-type: none"> • • <i>Micrococcus</i>
D	C12R 1/27	<ul style="list-style-type: none"> • • • <i>Micrococcus flavus</i> <administratively transferred to C12R 2001/27 ADD and C12N 1/205 INV>
N	C12R 2001/27	<ul style="list-style-type: none"> • • • <i>Micrococcus flavus</i>
D	C12R 1/28	<ul style="list-style-type: none"> • • • <i>Micrococcus glutamicus</i> <administratively transferred to C12R 2001/28 ADD and C12N 1/205 INV>
N	C12R 2001/28	<ul style="list-style-type: none"> • • • <i>Micrococcus glutamicus</i> {; <i>Corynebacterium glutamicum</i>}
D	C12R 1/285	<ul style="list-style-type: none"> • • • <i>Micrococcus lysodeikticus</i> <administratively transferred to C12R 2001/285 ADD and C12N 1/205 INV>
N	C12R 2001/285	<ul style="list-style-type: none"> • • • <i>Micrococcus lysodeikticus</i>
D	C12R 1/29	<ul style="list-style-type: none"> • • <i>Micromonospora</i> <administratively transferred to C12R 2001/29 ADD and C12N 1/205 INV>
N	C12R 2001/29	<ul style="list-style-type: none"> • • <i>Micromonospora</i>
D	C12R 1/30	<ul style="list-style-type: none"> • • • <i>Micromonospora chalybeata</i> <administratively transferred to C12R 2001/30 ADD and C12N 1/205 INV>
N	C12R 2001/30	<ul style="list-style-type: none"> • • • <i>Micromonospora chalybeata</i>
D	C12R 1/31	<ul style="list-style-type: none"> • • • <i>Micromonospora purpurea</i> <administratively transferred to C12R 2001/31 ADD and C12N 1/205 INV>
N	C12R 2001/31	<ul style="list-style-type: none"> • • • <i>Micromonospora purpurea</i> {; <i>Micromonospora echinospora</i>; <i>Micromonospora rhodorangea</i>}
D	C12R 1/32	<ul style="list-style-type: none"> • • <i>Mycobacterium</i> <administratively transferred to C12R 2001/32 ADD and C12N 1/205 INV>
N	C12R 2001/32	<ul style="list-style-type: none"> • • <i>Mycobacterium</i>
D	C12R 1/325	<ul style="list-style-type: none"> • • • <i>Mycobacterium avium</i> <administratively transferred to C12R 2001/325 ADD and C12N 1/205 INV>
N	C12R 2001/325	<ul style="list-style-type: none"> • • • <i>Mycobacterium avium</i>
D	C12R 1/33	<ul style="list-style-type: none"> • • • <i>Mycobacterium fortuitum</i> <administratively transferred to C12R 2001/33 ADD and C12N 1/205 INV>
N	C12R 2001/33	<ul style="list-style-type: none"> • • • <i>Mycobacterium fortuitum</i>

D	C12R 1/34	<ul style="list-style-type: none"> • • • <i>Mycobacterium smegmatis</i> <administratively transferred to C12R 2001/34 ADD and C12N 1/205 INV>
N	C12R 2001/34	<ul style="list-style-type: none"> • • • <i>Mycobacterium smegmatis</i>
D	C12R 1/35	<ul style="list-style-type: none"> • • <i>Mycoplasma</i> <administratively transferred to C12R 2001/35 ADD and C12N 1/205 INV>
N	C12R 2001/35	<ul style="list-style-type: none"> • • <i>Mycoplasma</i>
D	C12R 1/36	<ul style="list-style-type: none"> • • <i>Neisseria</i> <administratively transferred to C12R 2001/36 ADD and C12N 1/205 INV>
N	C12R 2001/36	<ul style="list-style-type: none"> • • <i>Neisseria</i>
D	C12R 1/365	<ul style="list-style-type: none"> • • <i>Nocardia</i> <administratively transferred to C12R 2001/365 ADD and C12N 1/205 INV>
N	C12R 2001/365	<ul style="list-style-type: none"> • • <i>Nocardia</i>
D	C12R 1/37	<ul style="list-style-type: none"> • • <i>Proteus</i> <administratively transferred to C12R 2001/37 ADD and C12N 1/205 INV>
N	C12R 2001/37	<ul style="list-style-type: none"> • • <i>Proteus</i>
D	C12R 1/38	<ul style="list-style-type: none"> • • <i>Pseudomonas</i> <administratively transferred to C12R 2001/38 ADD and C12N 1/205 INV>
N	C12R 2001/38	<ul style="list-style-type: none"> • • <i>Pseudomonas</i>
D	C12R 1/385	<ul style="list-style-type: none"> • • • <i>Pseudomonas aeruginosa</i> <administratively transferred to C12R 2001/385 ADD and C12N 1/205 INV>
N	C12R 2001/385	<ul style="list-style-type: none"> • • • <i>Pseudomonas aeruginosa</i>
D	C12R 1/39	<ul style="list-style-type: none"> • • • <i>Pseudomonas fluorescens</i> <administratively transferred to C12R 2001/39 ADD and C12N 1/205 INV>
N	C12R 2001/39	<ul style="list-style-type: none"> • • • <i>Pseudomonas fluorescens</i>
D	C12R 1/40	<ul style="list-style-type: none"> • • • <i>Pseudomonas putida</i> <administratively transferred to C12R 2001/40 ADD and C12N 1/205 INV>
N	C12R 2001/40	<ul style="list-style-type: none"> • • • <i>Pseudomonas putida</i>
D	C12R 1/41	<ul style="list-style-type: none"> • • <i>Rhizobium</i> <administratively transferred to C12R 2001/41 ADD and C12N 1/205 INV>
N	C12R 2001/41	<ul style="list-style-type: none"> • • <i>Rhizobium</i>
D	C12R 1/42	<ul style="list-style-type: none"> • • <i>Salmonella</i> <administratively transferred to C12R 2001/42 ADD and C12N 1/205 INV>
N	C12R 2001/42	<ul style="list-style-type: none"> • • <i>Salmonella</i>
D	C12R 1/425	<ul style="list-style-type: none"> • • <i>Serratia</i> <administratively transferred to C12R 2001/425 ADD and C12N 1/205 INV>
N	C12R 2001/425	<ul style="list-style-type: none"> • • <i>Serratia</i>
D	C12R 1/43	<ul style="list-style-type: none"> • • • <i>Serratia marcescens</i> <administratively transferred to C12R 2001/43 ADD and C12N 1/205 INV>
N	C12R 2001/43	<ul style="list-style-type: none"> • • • <i>Serratia marcescens</i>
D	C12R 1/44	<ul style="list-style-type: none"> • • <i>Staphylococcus</i> <administratively transferred to C12R 2001/44 ADD and C12N 1/205 INV>
N	C12R 2001/44	<ul style="list-style-type: none"> • • <i>Staphylococcus</i>

D	C12R 1/445	<ul style="list-style-type: none"> • • • <i>Staphylococcus aureus</i> <administratively transferred to C12R 2001/445 ADD and C12N 1/205 INV>
N	C12R 2001/445	<ul style="list-style-type: none"> • • • <i>Staphylococcus aureus</i>
D	C12R 1/45	<ul style="list-style-type: none"> • • • <i>Staphylococcus epidermidis</i> <administratively transferred to C12R 2001/45 ADD and C12N 1/205 INV>
N	C12R 2001/45	<ul style="list-style-type: none"> • • • <i>Staphylococcus epidermidis</i>
D	C12R 1/46	<ul style="list-style-type: none"> • • <i>Streptococcus</i>; {<i>Enterococcus</i>; <i>Lactococcus</i>} <administratively transferred to C12R 2001/46 ADD and C12N 1/205 INV>
N	C12R 2001/46	<ul style="list-style-type: none"> • • <i>Streptococcus</i> {; <i>Enterococcus</i>; <i>Lactococcus</i>}
D	C12R 1/465	<ul style="list-style-type: none"> • • <i>Streptomyces</i> <administratively transferred to C12R 2001/465 ADD and C12N 1/205 INV>
N	C12R 2001/465	<ul style="list-style-type: none"> • • <i>Streptomyces</i>
D	C12R 1/47	<ul style="list-style-type: none"> • • • <i>Streptomyces albus</i> <administratively transferred to C12R 2001/47 ADD and C12N 1/205 INV>
N	C12R 2001/47	<ul style="list-style-type: none"> • • • <i>Streptomyces albus</i>
D	C12R 1/48	<ul style="list-style-type: none"> • • • <i>Streptomyces antibioticus</i> <administratively transferred to C12R 2001/48 ADD and C12N 1/205 INV>
N	C12R 2001/48	<ul style="list-style-type: none"> • • • <i>Streptomyces antibioticus</i> {; <i>Actinomyces antibioticus</i>}
D	C12R 1/485	<ul style="list-style-type: none"> • • • <i>Streptomyces aureofaciens</i> <administratively transferred to C12R 2001/485 ADD and C12N 1/205 INV>
N	C12R 2001/485	<ul style="list-style-type: none"> • • • <i>Streptomyces aureofaciens</i>
D	C12R 1/49	<ul style="list-style-type: none"> • • • <i>Streptomyces aureus</i> <administratively transferred to C12R 2001/49 ADD and C12N 1/205 INV>
N	C12R 2001/49	<ul style="list-style-type: none"> • • • <i>Streptomyces aureus</i>
D	C12R 1/50	<ul style="list-style-type: none"> • • • <i>Streptomyces bikiniensis</i> <administratively transferred to C12R 2001/50 ADD and C12N 1/205 INV>
N	C12R 2001/50	<ul style="list-style-type: none"> • • • <i>Streptomyces bikiniensis</i>
D	C12R 1/51	<ul style="list-style-type: none"> • • • <i>Streptomyces candidus</i> <administratively transferred to C12R 2001/51 ADD and C12N 1/205 INV>
N	C12R 2001/51	<ul style="list-style-type: none"> • • • <i>Streptomyces candidus</i>
D	C12R 1/52	<ul style="list-style-type: none"> • • • <i>Streptomyces chartreusis</i> <administratively transferred to C12R 2001/52 ADD and C12N 1/205 INV>
N	C12R 2001/52	<ul style="list-style-type: none"> • • • <i>Streptomyces chartreusis</i>
D	C12R 1/525	<ul style="list-style-type: none"> • • • <i>Streptomyces diastatochromogenes</i> <administratively transferred to C12R 2001/525 ADD and C12N 1/205 INV>
N	C12R 2001/525	<ul style="list-style-type: none"> • • • <i>Streptomyces diastatochromogenes</i>
D	C12R 1/53	<ul style="list-style-type: none"> • • • <i>Streptomyces filipinensis</i> <administratively transferred to C12R 2001/53 ADD and C12N 1/205 INV>
N	C12R 2001/53	<ul style="list-style-type: none"> • • • <i>Streptomyces filipinensis</i>
D	C12R 1/54	<ul style="list-style-type: none"> • • • <i>Streptomyces fradiae</i> <administratively transferred to C12R 2001/54 ADD and C12N 1/205 INV>
N	C12R 2001/54	<ul style="list-style-type: none"> • • • <i>Streptomyces fradiae</i>

D	C12R 1/545	<ul style="list-style-type: none"> • • • <i>Streptomyces griseus</i> <administratively transferred to C12R 2001/545 ADD and C12N 1/205 INV>
N	C12R 2001/545	<ul style="list-style-type: none"> • • • <i>Streptomyces griseus</i>
D	C12R 1/55	<ul style="list-style-type: none"> • • • <i>Streptomyces hygroscopicus</i> <administratively transferred to C12R 2001/55 ADD and C12N 1/205 INV>
N	C12R 2001/55	<ul style="list-style-type: none"> • • • <i>Streptomyces hygroscopicus</i>
D	C12R 1/56	<ul style="list-style-type: none"> • • • <i>Streptomyces lavendulae</i> <administratively transferred to C12R 2001/56 ADD and C12N 1/205 INV>
N	C12R 2001/56	<ul style="list-style-type: none"> • • • <i>Streptomyces lavendulae</i>
D	C12R 1/565	<ul style="list-style-type: none"> • • • <i>Streptomyces lincolnensis</i> <administratively transferred to C12R 2001/565 ADD and C12N 1/205 INV>
N	C12R 2001/565	<ul style="list-style-type: none"> • • • <i>Streptomyces lincolnensis</i>
D	C12R 1/57	<ul style="list-style-type: none"> • • • <i>Streptomyces noursei</i> <administratively transferred to C12R 2001/57 ADD and C12N 1/205 INV>
N	C12R 2001/57	<ul style="list-style-type: none"> • • • <i>Streptomyces noursei</i>
D	C12R 1/58	<ul style="list-style-type: none"> • • • <i>Streptomyces olivaceus</i> <administratively transferred to C12R 2001/58 ADD and C12N 1/205 INV>
N	C12R 2001/58	<ul style="list-style-type: none"> • • • <i>Streptomyces olivaceus</i>
D	C12R 1/585	<ul style="list-style-type: none"> • • • <i>Streptomyces platensis</i> <administratively transferred to C12R 2001/585 ADD and C12N 1/205 INV>
N	C12R 2001/585	<ul style="list-style-type: none"> • • • <i>Streptomyces platensis</i>
D	C12R 1/59	<ul style="list-style-type: none"> • • • <i>Streptomyces rimosus</i> <administratively transferred to C12R 2001/59 ADD and C12N 1/205 INV>
N	C12R 2001/59	<ul style="list-style-type: none"> • • • <i>Streptomyces rimosus</i>
D	C12R 1/60	<ul style="list-style-type: none"> • • • <i>Streptomyces sparsogenes</i> <administratively transferred to C12R 2001/60 ADD and C12N 1/205 INV>
N	C12R 2001/60	<ul style="list-style-type: none"> • • • <i>Streptomyces sparsogenes</i>
D	C12R 1/61	<ul style="list-style-type: none"> • • • <i>Streptomyces venezuelae</i> <administratively transferred to C12R 2001/61 ADD and C12N 1/205 INV>
N	C12R 2001/61	<ul style="list-style-type: none"> • • • <i>Streptomyces venezuelae</i>
D	C12R 1/62	<ul style="list-style-type: none"> • • <i>Streptosporangium</i> <administratively transferred to C12R 2001/62 ADD and C12N 1/205 INV>
N	C12R 2001/62	<ul style="list-style-type: none"> • • <i>Streptosporangium</i>
D	C12R 1/625	<ul style="list-style-type: none"> • • <i>Streptoverticillium</i> <administratively transferred to C12R 2001/625 ADD and C12N 1/205 INV>
N	C12R 2001/625	<ul style="list-style-type: none"> • • <i>Streptoverticillium</i>
D	C12R 1/63	<ul style="list-style-type: none"> • • <i>Vibrio</i> <administratively transferred to C12R 2001/63 ADD and C12N 1/205 INV>
N	C12R 2001/63	<ul style="list-style-type: none"> • • <i>Vibrio</i>
D	C12R 1/64	<ul style="list-style-type: none"> • • <i>Xanthomonas</i> <administratively transferred to C12R 2001/64 ADD and C12N 1/205 INV>
N	C12R 2001/64	<ul style="list-style-type: none"> • • <i>Xanthomonas</i>

D	C12R 1/645	<ul style="list-style-type: none"> • using fungi <p><administratively transferred to C12R 2001/645 ADD and C12N 1/145 INV></p>
N	C12R 2001/645	<ul style="list-style-type: none"> • <i>Fungi</i> {; <i>Processes using fungi</i>}
D	C12R 1/65	<ul style="list-style-type: none"> • • <i>Absidia</i> <p><administratively transferred to C12R 2001/65 ADD and C12N 1/145 INV></p>
N	C12R 2001/65	<ul style="list-style-type: none"> • • <i>Absidia</i>
D	C12R 1/66	<ul style="list-style-type: none"> • • <i>Aspergillus</i> <p><administratively transferred to C12R 2001/66 ADD and C12N 1/145 INV></p>
N	C12R 2001/66	<ul style="list-style-type: none"> • • <i>Aspergillus</i>
D	C12R 1/665	<ul style="list-style-type: none"> • • • <i>Aspergillus awamori</i> <p><administratively transferred to C12R 2001/665 ADD and C12N 1/145 INV></p>
N	C12R 2001/665	<ul style="list-style-type: none"> • • • <i>Aspergillus awamori</i>
D	C12R 1/67	<ul style="list-style-type: none"> • • • <i>Aspergillus flavus</i> <p><administratively transferred to C12R 2001/67 ADD and C12N 1/145 INV></p>
N	C12R 2001/67	<ul style="list-style-type: none"> • • • <i>Aspergillus flavus</i>
D	C12R 1/68	<ul style="list-style-type: none"> • • • <i>Aspergillus fumigatus</i> <p><administratively transferred to C12R 2001/68 ADD and C12N 1/145 INV></p>
N	C12R 2001/68	<ul style="list-style-type: none"> • • • <i>Aspergillus fumigatus</i>
D	C12R 1/685	<ul style="list-style-type: none"> • • • <i>Aspergillus niger</i> <p><administratively transferred to C12R 2001/685 ADD and C12N 1/145 INV></p>
N	C12R 2001/685	<ul style="list-style-type: none"> • • • <i>Aspergillus niger</i>
D	C12R 1/69	<ul style="list-style-type: none"> • • • <i>Aspergillus oryzae</i> <p><administratively transferred to C12R 2001/69 ADD and C12N 1/145 INV></p>
N	C12R 2001/69	<ul style="list-style-type: none"> • • • <i>Aspergillus oryzae</i>
D	C12R 1/70	<ul style="list-style-type: none"> • • • <i>Aspergillus ustus</i> <p><administratively transferred to C12R 2001/70 ADD and C12N 1/145 INV></p>
N	C12R 2001/70	<ul style="list-style-type: none"> • • • <i>Aspergillus ustus</i>
D	C12R 1/71	<ul style="list-style-type: none"> • • • <i>Aspergillus wentii</i> <p><administratively transferred to C12R 2001/71 ADD and C12N 1/145 INV></p>
N	C12R 2001/71	<ul style="list-style-type: none"> • • • <i>Aspergillus wentii</i>
D	C12R 1/72	<ul style="list-style-type: none"> • • <i>Candida</i> <p><administratively transferred to C12R 2001/72 ADD and C12N 1/165 INV></p>
N	C12R 2001/72	<ul style="list-style-type: none"> • • <i>Candida</i>
D	C12R 1/725	<ul style="list-style-type: none"> • • • <i>Candida albicans</i> <p><administratively transferred to C12R 2001/725 ADD and C12N 1/165 INV></p>
N	C12R 2001/725	<ul style="list-style-type: none"> • • • <i>Candida albicans</i>
D	C12R 1/73	<ul style="list-style-type: none"> • • • <i>Candida lipolytica</i> <p><administratively transferred to C12R 2001/73 ADD and C12N 1/165 INV></p>
N	C12R 2001/73	<ul style="list-style-type: none"> • • • <i>Candida lipolytica</i>
D	C12R 1/74	<ul style="list-style-type: none"> • • • <i>Candida tropicalis</i> <p><administratively transferred to C12R 2001/74 ADD and C12N 1/165 INV></p>
N	C12R 2001/74	<ul style="list-style-type: none"> • • • <i>Candida tropicalis</i>

D	C12R 1/745	<ul style="list-style-type: none"> • <i>Gephalosporium</i> <administratively transferred to C12R 2001/745 ADD and C12N 1/145 INV>
N	C12R 2001/745	<ul style="list-style-type: none"> • <i>Cephalosporium</i> {; <i>Acremonium</i>}
D	C12R 1/75	<ul style="list-style-type: none"> • <i>Gephalosporium-acremonium</i> <administratively transferred to C12R 2001/75 ADD and C12N 1/145 INV>
N	C12R 2001/75	<ul style="list-style-type: none"> • <i>Cephalosporium-acremonium</i> {; <i>Acremonium strictum</i>}
D	C12R 1/76	<ul style="list-style-type: none"> • <i>Gephalosporium-coerulescens</i> <administratively transferred to C12R 2001/76 ADD and C12N 1/145 INV>
N	C12R 2001/76	<ul style="list-style-type: none"> • <i>Cephalosporium-coerulescens</i>
D	C12R 1/765	<ul style="list-style-type: none"> • <i>Gephalosporium-crotocinigenum</i> <administratively transferred to C12R 2001/765 ADD and C12N 1/145 INV>
N	C12R 2001/765	<ul style="list-style-type: none"> • <i>Cephalosporium-crotocinigenum</i> {; <i>Acremonium-crotocinigenum</i>; <i>Trichothecium-crotocinigenum</i>}
D	C12R 1/77	<ul style="list-style-type: none"> • <i>Fusarium</i> <administratively transferred to C12R 2001/77 ADD and C12N 1/145 INV>
N	C12R 2001/77	<ul style="list-style-type: none"> • <i>Fusarium</i>
D	C12R 1/78	<ul style="list-style-type: none"> • <i>Hansenula</i> <administratively transferred to C12R 2001/78 ADD and C12N 1/165 INV>
N	C12R 2001/78	<ul style="list-style-type: none"> • <i>Hansenula</i>
D	C12R 1/785	<ul style="list-style-type: none"> • <i>Mucor</i> <administratively transferred to C12R 2001/785 ADD and C12N 1/145 INV>
N	C12R 2001/785	<ul style="list-style-type: none"> • <i>Mucor</i>
D	C12R 1/79	<ul style="list-style-type: none"> • <i>Paecilomyces</i> <administratively transferred to C12R 2001/79 ADD and C12N 1/145 INV>
N	C12R 2001/79	<ul style="list-style-type: none"> • <i>Paecilomyces</i>
D	C12R 1/80	<ul style="list-style-type: none"> • <i>Penicillium</i> <administratively transferred to C12R 2001/80 ADD and C12N 1/145 INV>
N	C12R 2001/80	<ul style="list-style-type: none"> • <i>Penicillium</i>
D	C12R 1/81	<ul style="list-style-type: none"> • <i>Penicillium-brevi</i> <administratively transferred to C12R 2001/81 ADD and C12N 1/145 INV>
N	C12R 2001/81	<ul style="list-style-type: none"> • <i>Penicillium-brevi</i>
D	C12R 1/82	<ul style="list-style-type: none"> • <i>Penicillium-chrysogenum</i> <administratively transferred to C12R 2001/82 ADD and C12N 1/145 INV>
N	C12R 2001/82	<ul style="list-style-type: none"> • <i>Penicillium-chrysogenum</i>
D	C12R 1/825	<ul style="list-style-type: none"> • <i>Penicillium-notatum</i> <administratively transferred to C12R 2001/825 ADD and C12N 1/145 INV>
N	C12R 2001/825	<ul style="list-style-type: none"> • <i>Penicillium-notatum</i>
D	C12R 1/83	<ul style="list-style-type: none"> • <i>Penicillium-patulum</i> <administratively transferred to C12R 2001/83 ADD and C12N 1/145 INV>
N	C12R 2001/83	<ul style="list-style-type: none"> • <i>Penicillium-patulum</i> {; <i>Penicillium-griseofulvum</i>}
D	C12R 1/84	<ul style="list-style-type: none"> • <i>Pichia</i> <administratively transferred to C12R 2001/84 ADD and C12N 1/165 INV>
N	C12R 2001/84	<ul style="list-style-type: none"> • <i>Pichia</i>

- D C12R 1/845
- • *Rhizopus*
<administratively transferred to [C12R 2001/845](#) ADD and [C12N 1/145](#) INV>
- N C12R 2001/845
- D C12R 1/85
- • *Saccharomyces*
<administratively transferred to [C12R 2001/85](#) ADD and [C12N 1/185](#) INV>
- N C12R 2001/85
- • *Saccharomyces*
- D C12R 1/86
- • • *Saccharomyces carlsbergensis*
<administratively transferred to [C12R 2001/86](#) ADD and [C12N 1/185](#) INV>
- N C12R 2001/86
- • • *Saccharomyces carlsbergensis* {; *Saccharomyces pastorianus*}
- D C12R 1/865
- • • *Saccharomyces cerevisiae*
<administratively transferred to [C12R 2001/865](#) ADD and [C12N 1/185](#) INV>
- N C12R 2001/865
- • • *Saccharomyces cerevisiae*
- D C12R 1/87
- • • *Saccharomyces lactis*
<administratively transferred to [C12R 2001/87](#) ADD and [C12N 1/185](#) INV>
- N C12R 2001/87
- • • *Saccharomyces lactis* {; *Kluyveromyces lactis*}
- D C12R 1/88
- • *Torulopsis*
<administratively transferred to [C12R 2001/88](#) ADD and [C12N 1/165](#) INV>
- N C12R 2001/88
- • *Torulopsis*
- D C12R 1/885
- • *Trichoderma*
<administratively transferred to [C12R 2001/885](#) ADD and [C12N 1/145](#) INV>
- N C12R 2001/885
- • *Trichoderma*
- D C12R 1/89
- using algae
<administratively transferred to [C12R 2001/89](#) ADD and [C12N 1/125](#) INV>
- N C12R 2001/89
- *Algae* {; *Processes using algae*}
- D C12R 1/90
- using protozoa
<administratively transferred to [C12R 2001/90](#) ADD and [C12N 1/105](#) INV>
- N C12R 2001/90
- *Protozoa* {; *Processes using protozoa*}
- D C12R 1/91
- using viruses or cell lines
<administratively transferred to [C12R 2001/91](#) ADD and [C12N 1/00](#) INV>
- N C12R 2001/91
- *Cell lines* {; *Processes using cell lines*}

Project: RP0389 (C22B)**M C22B****PRODUCTION AND REFINING OF METALS (electrolytic [C25](#));
PRETREATMENT OF RAW MATERIALS**NOTE

In this subclass, groups for obtaining metals include obtaining the metals by non-metallurgical processes, and obtaining metal compounds by metallurgical processes, {as far as specifically indicated in the relevant groups} . Thus, for example, group [C22B 11/00](#) covers the production of silver by reduction of ammoniacal silver oxide in solution, and group [C22B 17/00](#) includes the production of cadmium oxide by a metallurgical process. Furthermore, although compounds of arsenic and antimony are classified in [C01G](#), production of the

elements themselves is included in [C22B](#), as well as the production of their compounds by metallurgical processes.

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C22B 3/26 - C22B 3/40	covered by	C22B 3/0005
C22B 9/187 - C22B 9/193	covered by	C22B 9/18
C22B 9/21	covered by	C22B 9/20
C22B 15/02	covered by	C22B 15/0032
C22B 15/04	covered by	C22B 15/0036
C22B 15/06	covered by	C22B 15/0041 , C22B 15/0043
C22B 15/14	covered by	C22B 15/006

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

M C22B 1/00

Preliminary treatment of ores or scrap ~~(furnaces, sintering apparatus F27B)~~

M C22B 3/00

Extraction of metal compounds from ores or concentrates by wet processes

NOTE

1. When classifying in this group, the nature of any metal which is considered to represent information of interest for search may also be classified in the main groups only of [C22B 11/00](#) - [C22B 25/00](#), in group [C22B 19/34](#) or in any of groups [C22B 26/00](#) - [C22B 61/00](#). This can for example, be the case when it is considered of interest to enable searching for extraction of specific metals or their compounds. Such non-obligatory classification should be given as "additional information".

~~1-2.~~ {This group covers methods directed to the extraction of three or more metals.

For the recovery of one or two metals, see the other groups of this subclass concerning these metals}

D C22B 3/0001

• {~~Leaching of ores not used~~, see subgroups}
<administratively transferred to [C22B 3/04](#)>

D C22B 3/0002

• • {~~Leaching with an ammoniacal liquor or with a hydroxide of an alkali or an alkaline earth metal~~}

WARNING

Group ~~C22B 3/0002~~ is no longer used for the classification of new documents from May 1st, 2005. The backlog of this group is being continuously transferred to the relevant groups of C22B

<administratively transferred to [C22B 3/14](#)>

D C22B 3/0004

• {~~Treatment or purification of solutions, e.g. obtained by leaching (C22B 3/04 takes precedence)~~}

WARNING

Not used, see subgroups

<administratively transferred to [C22B 3/20](#)>

D C22B 3/0005

• • {~~by liquid-liquid extraction using organic compounds, e.g. acyclic or carbocyclic compounds, heterocyclic compounds, organo-metallic compounds, alcohols, ethers, or the like (C22B 3/205 takes precedence)~~}

<administratively transferred to [C22B 3/26](#)>

- D C22B 3/0006 . . . {using acyclic or carbocyclic compounds}
<administratively transferred to [C22B 3/26](#)>
- D C22B 3/0008 . . . {using acyclic or carbocyclic compounds of a single type}
<administratively transferred to [C22B 3/26](#)>
- D C22B 3/0009 . . . {using alcohols or phenols}
<administratively transferred to [C22B 3/262](#)>
- D C22B 3/001 . . . {using amines (amino acids C22B 3/0024)}
<administratively transferred to [C22B 3/28](#)>
- D C22B 3/0012 . . . {using aliphatic amines}
<administratively transferred to [C22B 3/282](#)>
- D C22B 3/0013 . . . {using aromatic amines}
<administratively transferred to [C22B 3/284](#)>
- D C22B 3/0014 . . . {using amino alcohols}
<administratively transferred to [C22B 3/286](#)>
- D C22B 3/0016 . . . {using quaternary ammonium}
<administratively transferred to [C22B 3/288](#)>
- D C22B 3/0017 . . . {using oximes}
<administratively transferred to [C22B 3/30](#)>
- D C22B 3/0018 . . . {using ethers or epoxides}
<administratively transferred to [C22B 3/302](#)>
- D C22B 3/002 . . . {using crown ethers}
<administratively transferred to [C22B 3/304](#)>
- D C22B 3/0021 . . . {using ketones or aldehydes}
<administratively transferred to [C22B 3/306](#)>
- D C22B 3/0022 . . . {using organic acids (C22B 3/0031, C22B 3/0035, C22B 3/004 take precedence)}
<administratively transferred to [C22B 3/26](#)>
- D C22B 3/0024 . . . {using acids of the carboxylic type or derivatives thereof, e.g. amino acids, nitriles, amides, hydroxamic acids}
<administratively transferred to [C22B 3/32](#)>
- D C22B 3/0025 . . . {using oxalic acids}
<administratively transferred to [C22B 3/322](#)>
- D C22B 3/0027 . . . {using naphthenic acids}
<administratively transferred to [C22B 3/324](#)>
- D C22B 3/0028 . . . {using ramified chain carboxylic acids or derivatives thereof, e.g. "versatic" acids}
<administratively transferred to [C22B 3/326](#)>
- D C22B 3/0029 . . . {using cyanic acids or derivatives thereof (C22B 3/0031, C22B 3/0035, C22B 3/004 take precedence)}
<administratively transferred to [C22B 3/33](#)>
- D C22B 3/0031 . . . {using organic compounds containing sulfur atom(s), e.g. sulfonium (C22B 3/004 takes precedence)}
<administratively transferred to [C22B 3/34](#)>

- D C22B 3/0032 . . . {using mixtures of acyclic or carbocyclic compounds of different types (C22B 3/0035, C22B 3/004 take precedence)}
<administratively transferred to [C22B 3/402](#)>
- D C22B 3/0033 . . . {using organic acids added to oximes}
<administratively transferred to [C22B 3/404](#)>
- D C22B 3/0035 . . {using heterocyclic compounds (C22B 3/0018, C22B 3/002 and C22B 3/0031 take precedence)}
<administratively transferred to [C22B 3/36](#)>
- D C22B 3/0036 . . . {using heterocyclic compounds of a single type}
<administratively transferred to [C22B 3/362](#)>
- D C22B 3/0037 . . . {using quinoline}
<administratively transferred to [C22B 3/364](#)>
- D C22B 3/0039 . . . {using a mixture of organic agents wherein one agent at least is a heterocyclic compound (C22B 3/004 takes precedence)}
<administratively transferred to [C22B 3/406](#)>
- D C22B 3/004 . . {using organo-metallic compounds or organo compounds of boron, silicon, phosphorus, selenium or tellurium}
<administratively transferred to [C22B 3/37](#)>
- D C22B 3/0041 . . . {using organo-metallic compounds of a single type}
<administratively transferred to [C22B 3/37](#)>
- D C22B 3/0043 . . . {using phosphorus-based acid derivatives}
<administratively transferred to [C22B 3/38](#)>
- D C22B 3/0044 . . . {of a single type}
<administratively transferred to [C22B 3/38](#)>
- D C22B 3/0045 . . . {Acyclic compounds}
<administratively transferred to [C22B 3/38](#)>
- D C22B 3/0047 . . . {of the phosphine or phosphane (PH_3) type}
<administratively transferred to [C22B 3/381](#)>
- D C22B 3/0048 . . . {Primary (RPH_2) compounds}
<administratively transferred to [C22B 3/381](#)>
- D C22B 3/005 . . . {Secondary (R_2PH) compounds}
<administratively transferred to [C22B 3/381](#)>
- D C22B 3/0051 . . . {Tertiary (R_3PH) compounds}
<administratively transferred to [C22B 3/381](#)>
- D C22B 3/0052 . . . {Chalcogenides of phosphine, e.g. ($\text{R}_3\text{P}=\text{X}$) type with $\text{X}=\text{O}, \text{S}, \text{Se}$ or Te ; Oxides, Thio-oxides of phosphine}
<administratively transferred to [C22B 3/382](#)>
- D C22B 3/0054 . . . {of the phosphorane (PH_5) type}
<administratively transferred to [C22B 3/38](#)>
- D C22B 3/0055 . . . {of the phosphonium (PR_4) type}
<administratively transferred to [C22B 3/38](#)>
- D C22B 3/0056 . . . {Mononuclear oxyacids of tervalent phosphorus or their esters(-ite)}
<administratively transferred to [C22B 3/383](#)>

D	C22B 3/0058	. . . . . {Phosphenous (HOPO) type} <administratively transferred to C22B 3/383 >
D	C22B 3/0059	. . . . . {Phosphinous (H ₂ POH) type} <administratively transferred to C22B 3/383 >
D	C22B 3/006	. . . . . {Phosphonous (H ₂ P(OH) ₂) type} <administratively transferred to C22B 3/383 >
D	C22B 3/0062	. . . . . {Phosphorous (P(OH) ₃) type} <administratively transferred to C22B 3/383 >
D	C22B 3/0063	. . . . . {Mononuclear oxyacids of pentavalent phosphorus or their esters(-ate)} <administratively transferred to C22B 3/384 >
D	C22B 3/0064	. . . . . {Phosphenic (HOP(O) ₂) or metaphosphoric type} <administratively transferred to C22B 3/384 >
D	C22B 3/0066	. . . . . {Phosphinic (H ₂ P(O)(OH)) type} <administratively transferred to C22B 3/3842 >
D	C22B 3/0067	. . . . . {Phosphonic (H ₂ P(O)(OH) ₂) type} <administratively transferred to C22B 3/3844 >
D	C22B 3/0068	. . . . . {Phosphoric ((O)P(OH) ₃) type} <administratively transferred to C22B 3/3846 >
D	C22B 3/007	. . . . . {Thiophosphoric acids or their esters} <administratively transferred to C22B 3/385 >
D	C22B 3/0071	. . . . . {Dinuclear or polynuclear oxyacids and their derivatives} <administratively transferred to C22B 3/386 >
D	C22B 3/0072	. . . . . {Compounds with phosphorus-nitrogen (P=N) double bonds} <administratively transferred to C22B 3/386 >
D	C22B 3/0074	. . . . . {compounds with (P-P) bonds} <administratively transferred to C22B 3/386 >
D	C22B 3/0075	. . . . . {compounds with (P-Xn-P) bonds (n, 0; X: other than P), e.g. pyro- or di-} <administratively transferred to C22B 3/386 >
D	C22B 3/0077	. . . . . {Cyclic compounds, e.g. aryl-, phenyl-, benzyl-compounds} <administratively transferred to C22B 3/387 >
D	C22B 3/0078	. . . . . {using a mixture of phosphorus-based acid derivatives of different types} <administratively transferred to C22B 3/408 >
D	C22B 3/0079	. . . . . {of the acyclic type} <administratively transferred to C22B 3/408 >
D	C22B 3/0081	. . . . . {two or more of the phosphine type} <administratively transferred to C22B 3/408 >
D	C22B 3/0082	. . . . . {two or more of the phosphine oxides or sulfides type} <administratively transferred to C22B 3/408 >
D	C22B 3/0083	. . . . . {two or more of the phosphorane type} <administratively transferred to C22B 3/408 >

- D C22B 3/0085 {two or more of the phosphonium type}
<administratively transferred to [C22B 3/408](#)>
- D C22B 3/0086 {two or more of the mononuclear oxyacids of tervalent phosphorus or their esters}
<administratively transferred to [C22B 3/408](#)>
- D C22B 3/0087 {two or more mononuclear oxyacids of quinquivalent phosphorus or their esters}
<administratively transferred to [C22B 3/408](#)>
- D C22B 3/0089 {two or more thiophosphoric acids or their esters}
<administratively transferred to [C22B 3/408](#)>
- D C22B 3/009 {two or more dinuclear or polynuclear oxyacids or their derivatives}
<administratively transferred to [C22B 3/408](#)>
- D C22B 3/0091 {combinations of the above}
<administratively transferred to [C22B 3/408](#)>
- D C22B 3/0093 {comprising cyclic compounds only}
<administratively transferred to [C22B 3/408](#)>
- D C22B 3/0094 {comprising cyclic and acyclic compounds}
<administratively transferred to [C22B 3/408](#)>
- D C22B 3/0095 {using a mixture of organic agents wherein one agent at least is an organo-metallic compound}
<administratively transferred to [C22B 3/409](#)>
- D C22B 3/0097 . . . {using a solution of normally solid organic compounds, e.g. dissolved polymers, sugars, or the like}
<administratively transferred to [C22B 3/41](#)>
- D C22B 3/0098 . . . {by ion exchange extraction or by adsorption on solid substances, e.g. by extraction with solid resins (C22B 3/0097 takes precedence)}
- WARNING**
Group C22B 3/0098 is no longer used for the classification of new documents from May 1st, 2005. The backlog of this group is being continuously transferred to the relevant groups of C22B
<administratively transferred to [C22B 3/24](#)>
- U C22B 3/04 . . . by leaching ([C22B 3/18](#) takes precedence)
- U C22B 3/12 . . . in inorganic alkaline solutions
- M C22B 3/14 . . . containing ammonia or ammonium salts
- WARNING**
~~Group C22B 3/14 was introduced on May 1st, 2005. This group covers the subject-matter of group C22B 3/0002 which is no longer used for classification of new documents~~
- U C22B 3/20 . . . Treatment or purification of solutions, e.g. obtained by leaching ([C22B 3/18](#) takes precedence)
- M C22B 3/22 . . . by physical processes, e.g. by filtration, by magnetic means, ~~{, or by thermal decomposition}~~ (~~C22B 3/0005 takes precedence~~ *treatment or purification of solutions by liquid-liquid extraction C22B 3/26*)

- C C22B 3/24
- • • by adsorption on solid substances, e.g. by extraction with solid resins
- WARNING
Group C22B 3/24 was introduced on May 1st, 2005. This is impacted by reclassification into group covers the subject-matter of group C22B 3/42. Groups C22B 3/24 and C22B 3/42 C22B 3/0098 which is no longer used for classification of new documents should be considered in order to perform a complete search.
- Q C22B 3/26
- • • by liquid-liquid extraction using organic compounds
- NOTE
In groups {C22B 3/262 - C22B 3/41:}
a. the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, compounds are classified in the last appropriate place;
b. when two or more compounds are used successively, each compound is classified as such;
c. mixtures containing two or more compounds covered individually by the same one of groups {C22B 3/262 - C22B 3/387,} are classified only in that group.
- WARNING
Group C22B 3/26 is impacted by reclassification into group C22B 3/40. Groups C22B 3/26 and C22B 3/40 should be considered in order to perform a complete search.
- N C22B 3/262
- • • {using alcohols or phenols}
- N C22B 3/28
- • • Amines
- N C22B 3/282
- • • • {Aliphatic amines}
- N C22B 3/284
- • • • {Aromatic amines}
- N C22B 3/286
- • • • {Amino-alcohols}
- N C22B 3/288
- • • • {Quaternary ammonium}
- N C22B 3/30
- • • Oximes
- N C22B 3/302
- • • {Ethers or epoxides}
- N C22B 3/304
- • • • {Crown ethers}
- N C22B 3/306
- • • {Ketones or aldehydes}
- N C22B 3/32
- • • Carboxylic acids
- N C22B 3/322
- • • • {Oxalic acids}
- N C22B 3/324
- • • • {Naphthenic acids}
- N C22B 3/326
- • • • {Ramified chain carboxylic acids or derivatives thereof, e.g. "versatic" acids}
- N C22B 3/33
- • • {Cyanic acids, derivatives thereof}
- N C22B 3/34
- • • containing sulfur {, e.g. sulfonium}
- N C22B 3/36
- • • Heterocyclic compounds (C22B 3/34 takes precedence)
- N C22B 3/362
- • • • {Heterocyclic compounds of a single type}
- N C22B 3/364
- • • • • {Quinoline}
- N C22B 3/37
- • • {containing boron, silicon, selenium or tellurium}
- N C22B 3/38
- • • containing phosphorus
- N C22B 3/381
- • • • {Phosphines, e.g. compounds with the formula PR_nH_{3-n} , with $n = 0-3$ }
- N C22B 3/382
- • • • {Phosphine chalcogenides, e.g. compounds of the formula $R_3P=X$ with $X = O, S, Se$ or Te }

- N C22B 3/383 {Tervalent phosphorus oxyacids, esters thereof}
- N C22B 3/384 {Pentavalent phosphorus oxyacids, esters thereof}
- N C22B 3/3842 {Phosphinic acid, e.g. $H_2P(O)(OH)$ }
- N C22B 3/3844 {Phosphonic acid, e.g. $H_2P(O)(OH)_2$ }
- N C22B 3/3846 {Phosphoric acid, e.g. $(O)P(OH)_3$ }
- N C22B 3/385 {Thiophosphoric acids, or esters thereof}
- N C22B 3/386 {Polyphosphoric oxyacids, or derivatives thereof}
- N C22B 3/387 {Cyclic or polycyclic compounds}
- N C22B 3/40 . . . Mixtures

WARNING

Group [C22B 3/40](#) is incomplete pending reclassification of documents from group [C22B 3/26](#).

Groups [C22B 3/26](#) and [C22B 3/40](#) should be considered in order to perform a complete search.

- N C22B 3/402 {of acyclic or carbocyclic compounds of different types}
- N C22B 3/404 {of organic acids and oximes}
- N C22B 3/406 {at least one compound thereof being a heterocyclic compound}
- N C22B 3/408 {using a mixture of phosphorus-based acid derivatives of different types}
- N C22B 3/409 {at least one compound being an organo-metallic compound}
- N C22B 3/41 . . . {using a solution of normally solid organic compounds, e.g. dissolved polymers, sugars, or the like}
- M C22B 3/42 . . . by ion-exchange extraction

WARNING

Group C22B 3/42 was introduced on May 1st, 2005. This group covers the subject-matter of group C22B 3/0098 which is no longer used for classification of new documents

Group [C22B 3/42](#) is incomplete pending reclassification of documents from group [C22B 3/24](#).

Groups [C22B 3/24](#) and [C22B 3/42](#) should be considered in order to perform a complete search.

- M C22B 3/44 . . . by chemical processes (~~C22B 3/0005~~ -- ~~C22B 3/0097~~ take precedence treatment or purification of solutions by liquid-liquid extraction [C22B 3/26](#), by ion-exchange extraction [C22B 3/42](#))

U C22B 11/00**Obtaining noble metals**

M C22B 11/04

- {by wet processes (~~C22B 3/16~~ takes precedence; [extraction of metal compounds by leaching in organic solutions C22B 3/16](#); treatment or purification of solutions by liquid-liquid extraction ~~C22B 3/0005~~, by ion exchange or by adsorption ~~C22B 3/00~~, ~~C01G C22B 3/26~~; ~~C22B 3/16~~; ~~C22B 3/0005~~)}

U C22B 15/00**Obtaining copper**

U C22B 15/0063

- {Hydrometallurgy}

M C22B 15/0084

- • {Treating solutions (with organic compounds ~~C22B 3/0004~~ [C22B 3/20](#))}

U C22B 30/00**Obtaining antimony, arsenic or bismuth**

- M C22B 30/04 • Obtaining arsenic ~~{{(C22B 3/16, C22B 3/0005 and C22B 3/0098 take precedence~~*extraction of metal compounds by leaching in organic solutions C22B 3/16; treatment or purification of solutions by adsorption on solids C22B 3/24, by liquid-liquid extraction C22B 3/26, by ion-exchange extraction C22B 3/42}}*
- U C22B 34/00 **Obtaining refractory metals**
- U C22B 34/30 • Obtaining chromium, molybdenum or tungsten
- M C22B 34/34 • • Obtaining molybdenum ~~{{(C22B 3/0005, C22B 3/0098 and C01G 39/003 take precedence; from catalyst or superalloy scrap : see also C22B 7/00~~*treatment or purification of solutions by adsorption on solids C22B 3/24, by liquid-liquid extraction C22B 3/26, by ion-exchange extraction C22B 3/42; preparation of molybdenum involving liquid-liquid extraction, adsorption or ion-exchange C01G 39/003}}*
- M C22B 41/00 **Obtaining germanium** ~~{{(C22B 3/0005 and C22B 3/0098 takes precedence~~*treatment or purification of solutions by adsorption on solids C22B 3/24, by liquid-liquid extraction C22B 3/26, by ion-exchange extraction C22B 3/42}}*
- M C22B 58/00 **Obtaining gallium or indium** ~~{{(treatment or purification of solutions by liquid-liquid extraction, by ion-exchange or by adsorption~~
~~C22B 3/0004~~*C22B 3/20}}*

Project: RP0671 (D03D)

- U D03D 1/00 **Woven fabrics designed to make specified articles**
- C D03D 1/0035 • {Protective fabrics}
- WARNING**
Group D03D 1/0035 is impacted by reclassification into group D03D 1/0043. Groups D03D 1/0035 and D03D 1/0043 should be considered in order to perform a complete search.
- U D03D 1/0041 • • {Cut or abrasion resistant}
- N D03D 1/0043 • • {for elongated members, i.e. sleeves}
- WARNING**
Group D03D 1/0043 is incomplete pending reclassification of documents from groups D03D 1/0035 and D03D 3/02. Groups D03D 1/0035, D03D 3/02 and D03D 1/0043 should be considered in order to perform a complete search.
- U D03D 3/00 **Woven fabrics characterised by their shape**
- C D03D 3/02 • Tubular fabrics
- WARNING**
Group D03D 3/02 is impacted by reclassification into group D03D 1/0043. Groups D03D 1/0043 and D03D 3/02 should be considered in order to perform a complete search.
- D D03D 2700/00 **Woven fabrics; Methods of weaving; Looms**
- D D03D 2700/01 • Woven fabrics; General weaving methods
- D D03D 2700/0103 • • Elastic fabrics
- D D03D 2700/0107 • • for collars or cuffs
- D D03D 2700/0111 • • Double or multi-ply fabrics
- D D03D 2700/0114 • • • for conveyor belts, brakes, couplings, tyres or belts

D	D03D 2700/0118	. . . for absorbing shocks
D	D03D 2700/0122	. . Tapes
D	D03D 2700/0125	. . . for carrying liquids, e.g. typewriter tape
D	D03D 2700/0129	. . . Memory tapes
D	D03D 2700/0133	. . characterised by the material of warp or weft
D	D03D 2700/0137	. . . Combination of different materials
D	D03D 2700/014	. . . Warp or weft treated before weaving
D	D03D 2700/0144	. . . Use of threads with different characteristics for subsequent treatments
D	D03D 2700/0148	. . . with glass, carbon or asbestos fibres
D	D03D 2700/0151	. . made of paper
D	D03D 2700/0155	. . Industrial fabrics
D	D03D 2700/0159	. . . Screens or filters
D	D03D 2700/0162	. . . Paper making felts
D	D03D 2700/0166	. . Fabrics with electric conductors
D	D03D 2700/017	. . Cleaning fabrics or footmats
D	D03D 2700/0174	. . Fabrics for special use
D	D03D 2700/0177	. . . Absorbing fabrics, e.g. for sanitary towels
D	D03D 2700/0181	. . . for neckties or shawls
D	D03D 2700/0185	. . . for linings
D	D03D 2700/0188	. . . for curtains
D	D03D 2700/0192	. . Fabrics with beads
D	D03D 2700/0196	. . Reinforced fabrics
D	D03D 2700/02	. Belts
D	D03D 2700/03	. Tubular fabrics or bags; Endless fabrics
D	D03D 2700/10	. Smallware looms
D	D03D 2700/101	. . Devices for driving the shuttles
D	D03D 2700/103	. . Devices for weft insertion from fixed bobbins
D	D03D 2700/105	. . Devices for forming the selvages
D	D03D 2700/106	. . Devices for changing the shuttles or cops
D	D03D 2700/108	. . Devices for driving the warp or cloth beam
D	D03D 2700/12	. Looms for weaving two or more fabrics at the same time
D	D03D 2700/14	. Looms in which bulk supply of weft does not pass through the shed
D	D03D 2700/1404	. . Weft bobbin supports
D	D03D 2700/1409	. . Transfer of weft to the shuttle
D	D03D 2700/1413	. . . Transfer of weft of different colours or types
D	D03D 2700/1418	. . . Simultaneous transfer of several wefts
D	D03D 2700/1422	. . . with weft treatment, e.g. dyeing or twisting
D	D03D 2700/1427	. . . Unwinding of weft from a fixed bobbin
D	D03D 2700/1431	. . . Weft supplying or guiding
D	D03D 2700/1436	. . . Weft tensioning devices
D	D03D 2700/144	. . . Weft cutting devices
D	D03D 2700/1445	. . . Weft braking devices
D	D03D 2700/145	. . . Weft clamping devices
D	D03D 2700/1454	. . . Weft controlling devices

- D D03D 2700/1459 . . . Weft measuring and storing devices
- D D03D 2700/1463 . . . Weft preparation by the action of a fluid, e.g. for accumulating or braking the weft
- D D03D 2700/1468 . . . Transfer of weft after insertion
- D D03D 2700/1472 . . Weft insertion
- D D03D 2700/1477 . . . by gripper shuttles
- D D03D 2700/1481 with forced movement
- D D03D 2700/1486 . . . by means other than gripper shuttles
- D D03D 2700/149 by needles
- D D03D 2700/1495 by pneumatic or hydraulic means
- D D03D 2700/16 . . Circular looms
- D D03D 2700/162 . . Weft inserting means
- D D03D 2700/164 . . Beat-up means
- D D03D 2700/166 . . Shuttle changing means
- D D03D 2700/168 . . Driving mechanism for the warp or cloth beam; Shed forming devices
- D D03D 2700/19 . . Take-up motions, also in combination with warp let-off mechanisms; Breast beams
- D D03D 2700/25 . . Devices for weft changing in looms
- D D03D 2700/26 . . Driving or stopping arrangements for looms
- D D03D 2700/265 . . Electric driving arrangements
- D D03D 2700/30 . . Warp stop motions
- D D03D 2700/305 . . electrical
- D D03D 2700/31 . . Weft stop motions, also combined with warp stop motions
- D D03D 2700/313 . . electrical
- D D03D 2700/316 . . Feeler devices for the weft or the shuttle
- D D03D 2700/50 . . Pile-fabric looms; Pile fabrics
- D D03D 2700/53 . . Weaving of loop ribbons or chenille
- D D03D 2700/54 . . Wire-tapestry looms for warp pile fabrics
- D D03D 2700/58 . . Control devices for the warp pile
- D D03D 2700/60 . . Pile fabric weaving in general
- D D03D 2700/61 . . Fabrics for fasteners of the touch-and-close type
- D D03D 2700/80 . . Weaving of metallic fabrics
- D D03D 2700/81 . . Shed forming devices
- D D03D 2700/82 . . Looms with fixed weft bobbins
- D D03D 2700/821 . . . Transfer of the weft from the bobbin to the insertion device
- D D03D 2700/823 . . . Transfer of the weft after insertion
- D D03D 2700/825 . . . Insertion of the weft
- D D03D 2700/826 by means of gripper shuttles
- D D03D 2700/828 by means of gripper needles
- D D03D 2700/83 . . Selvage forming
- D D03D 2700/84 . . Transport or guiding of the warp; Warp beams
- D D03D 2700/85 . . Cloth take-up mechanisms, also combined with warp let-off mechanisms; Breast beams
- D D03D 2700/86 . . Shuttle driving devices
- D D03D 2700/865 . . . Shuttles

- D D03D 2700/87 • Arrangements for the slay; Construction of the slay
- D D03D 2700/88 • Control devices; e.g. for weft or warp
- D D03D 2700/90 • Pickers or arresting means

Project: RP0241 (F16B)

- C F16B 45/00** Hooks; Eyes (if the attaching parts or means are concerned, groups [F16B 13/00](#), [F16B 15/00](#), [F16B 19/00](#), [F16B 25/00](#), [F16B 35/00](#), [F16B 47/00](#) take precedence; for hanging pictures or the like [A47G 1/16](#); towing hooks for ships [B63B 21/58](#); for hoisting or hauling purposes [B66C](#); hooks or eyes with integral parts designed to facilitate quick attachment to cables or ropes at any point [F16G 11/14](#))


WARNING

Group [F16B 45/00](#) is impacted by reclassification into groups [F16B 45/002](#), [F16B 45/005](#), [F16B 45/008](#), [F16B 45/012](#) and [F16B 45/015](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N F16B 45/002** • {Eyes}
- WARNING**
- Group [F16B 45/002](#) is incomplete pending reclassification of documents from group [F16B 45/00](#).*
- Groups [F16B 45/00](#) and [F16B 45/002](#) should be considered in order to perform a complete search.*

- N F16B 45/005** • {characterised by the material}
- WARNING**
- Groups [F16B 45/005](#), [F16B 45/008](#), [F16B 45/012](#), and [F16B 45/015](#) are incomplete pending reclassification of documents from groups [F16B 45/00](#), [F16B 45/02](#), [F16B 45/021](#) and [F16B 45/04](#).*
- All groups listed in this Warning should be considered in order to perform a complete search.*

- N F16B 45/008** • {plastics}
- N F16B 45/012** • {wire}
- N F16B 45/015** • {sheet metal}
- C F16B 45/02** • Hooks with  pivoting {or elastically bending} closing member

WARNING

Group [F16B 45/02](#) is impacted by reclassification into groups [F16B 45/005](#), [F16B 45/008](#), [F16B 45/012](#), [F16B 45/015](#), [F16B 45/021](#), [F16B 45/022](#), [F16B 45/023](#), [F16B 45/024](#), [F16B 45/026](#), [F16B 45/027](#), [F16B 45/028](#), [F16B 45/029](#), [F16B 45/031](#), [F16B 45/032](#), [F16B 45/033](#), [F16B 45/034](#), [F16B 45/035](#), [F16B 45/036](#) and [F16B 45/037](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- Q F16B 45/021** • {the closing member being operable remotely, e.g. by cables, chains or rods}
- WARNING**
- Group [F16B 45/021](#) is incomplete pending reclassification of documents from groups [F16B 45/02](#).*
- Group [F16B 45/021](#) is also impacted by reclassification into groups [F16B 45/005](#), [F16B 45/008](#), [F16B 45/012](#), [F16B 45/015](#), [F16B 45/022](#), [F16B 45/023](#), [F16B 45/024](#), [F16B 45/026](#), [F16B 45/027](#), [F16B 45/028](#), [F16B 45/029](#), [F16B 45/031](#), [F16B 45/032](#), [F16B 45/033](#), [F16B 45/034](#), [F16B 45/035](#), [F16B 45/036](#) and [F16B 45/037](#).*

All groups listed in this Warning should be considered in order to perform a complete search.

N F16B 45/022

- {the closing member pivoting about an axis lying in the plane of the hook}

WARNING

Group [F16B 45/022](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N F16B 45/023

- {the closing member pivoting about an axis perpendicular to the plane of the hook}

WARNING

Group [F16B 45/023](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N F16B 45/024

- {and having means biasing the closing member about the pivot}

WARNING

Groups [F16B 45/024](#) and [F16B 45/026](#) are incomplete pending reclassification of documents from group [F16B 45/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

D F16B 45/025

- {manoeuvrable remotely with a cable, chain, rod or the like}
- <administratively transferred to [F16B 45/021](#)>

N F16B 45/026

- • {and including a coil type spring}

N F16B 45/027

- {and having position-locking means for the closing member}

WARNING

Groups [F16B 45/027](#), [F16B 45/028](#) and [F16B 45/029](#) are incomplete pending reclassification of documents from group [F16B 45/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N F16B 45/028

- • {the position-locking means being pivotally connected}

N F16B 45/029

- • {the position-locking means being slidably mounted}

N F16B 45/031

- {the closing member closing when a structure to be secured is tensioned}

WARNING

Group [F16B 45/031](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N F16B 45/032

- {whereby the closing member is slidable relative to the pivot}

WARNING

Group [F16B 45/032](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N F16B 45/033
- {the closing member being revolvably mounted and having a disc shape}
- WARNING
Group [F16B 45/033](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N F16B 45/034
- {the closing member constituting the hook shaped portion of the hook}
- WARNING
Group [F16B 45/034](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N F16B 45/035
- {the hook forming a loop or ring when interlocked with the closing member, i.e. the entire structure of the hook being loop shaped}
- WARNING
Group [F16B 45/035](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N F16B 45/036
- {with an elastically bending closing member}
- WARNING
Group [F16B 45/036](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N F16B 45/037
- {Multiple locking cavities, each having a pivoting closing member}
- WARNING
Group [F16B 45/037](#) is incomplete pending reclassification of documents from group [F16B 45/02](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- C F16B 45/04
- Hooks with a sliding closing member
- WARNING
Group [F16B 45/04](#) is impacted by reclassification into groups [F16B 45/005](#), [F16B 45/008](#), [F16B 45/012](#), [F16B 45/015](#), [F16B 45/043](#), [F16B 45/045](#), [F16B 45/047](#), [F16B 45/049](#), [F16B 45/051](#), [F16B 45/053](#), [F16B 45/055](#), [F16B 45/057](#) and [F16B 45/059](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N F16B 45/043
- {the closing member being operable remotely, e.g. by cables, chains or rods}
- WARNING
Group [F16B 45/043](#) is incomplete pending reclassification of documents from group [F16B 45/04](#).
All groups listed in this Warning should be considered in order to perform a complete search.

- N F16B 45/045
- {provided with position-locking means for the closing member}
- WARNING
Groups [F16B 45/045](#) and [F16B 45/047](#) are incomplete pending reclassification of documents from group [F16B 45/04](#).
Groups [F16B 45/04](#) and [F16B 45/045](#) should be considered in order to perform a complete search.
- N F16B 45/047
- • {in the form of a threaded closing member}
- N F16B 45/049
- {provided with means biasing the closing member}
- WARNING
Group [F16B 45/049](#) is incomplete pending reclassification of documents from group [F16B 45/04](#).
Groups [F16B 45/04](#) and [F16B 45/049](#) should be considered in order to perform a complete search.
- N F16B 45/051
- {provided with a guide of the closing member encircling a shank of the hook}
- WARNING
Group [F16B 45/051](#) is incomplete pending reclassification of documents from group [F16B 45/04](#).
Groups [F16B 45/04](#) and [F16B 45/051](#) should be considered in order to perform a complete search.
- N F16B 45/053
- {provided with a cavity in a shank of the hook forming a track or way for the closing member}
- WARNING
Group [F16B 45/053](#) is incomplete pending reclassification of documents from group [F16B 45/04](#).
Groups [F16B 45/04](#) and [F16B 45/053](#) should be considered in order to perform a complete search.
- N F16B 45/055
- {the closing member constituting the hook-shaped portion of the hook}
- WARNING
Group [F16B 45/055](#) is incomplete pending reclassification of documents from group [F16B 45/04](#).
Groups [F16B 45/04](#) and [F16B 45/055](#) should be considered in order to perform a complete search.
- N F16B 45/057
- {the hook forming a loop or ring when interlocked with the closing member, i.e. the entire structure of the hook being loop shaped}
- WARNING
Group [F16B 45/057](#) is incomplete pending reclassification of documents from group [F16B 45/04](#).
Groups [F16B 45/04](#) and [F16B 45/057](#) should be considered in order to perform a complete search.
- N F16B 45/059
- {Multiple locking cavities, each having a sliding closing member}
- WARNING
Group [F16B 45/059](#) is incomplete pending reclassification of documents from group [F16B 45/04](#).
Groups [F16B 45/04](#) and [F16B 45/059](#) should be considered in order to perform a complete search.
- T F16B 45/06
- Hooks with two symmetrically-pivoting hook parts {within the same locking cavity ([F16B 45/035](#) takes precedence)}

Project: RP0684 (F16D)

- U F16D 65/00** **Parts or details (similar members for clutches [F16D 13/58](#))**
- U F16D 65/005**
 - {Components of axially engaging brakes not otherwise provided for}
- D F16D 65/0093**
 - {~~Brake housing guide members, e.g. caliper pins; Accessories therefor, e.g. dust boots~~
 - <administratively transferred to [F16D 65/0087](#)>

Project: RP0241 (F16G)

- U F16G 11/00** **Means for fastening cables or ropes to one another or to other objects; Caps or sleeves for fixing on cables or ropes (attaching ropes or cables to lift cars or cages [B66B 7/08](#), to winch drums or barrels [B66D 1/34](#); ground anchors [E02D 5/00](#); anchoring devices for prestressed members [E04C 5/00](#); rope clamps in earth drilling [E21B 19/12](#))**
- M F16G 11/14**
 - Devices or coupling-pieces designed for easy formation of adjustable loops, e.g. choker hooks; Hooks or eyes with integral parts designed to facilitate quick attachment to cables or ropes at any point, e.g. by forming loops (~~crane hooks [B66C 1/34](#); hooks or eyes in general [F16B 45/00](#)~~)

Project: RP0494-F (F16L)

- M F16L 53/00** **Heating of pipes or pipe systems; Cooling of pipes or pipe systems**
- WARNING**
Group F16L 53/00 is impacted by reclassification into groups F16L 53/70 and F16L 53/75.
Groups F16L 53/00, F16L 53/70, and F16L 53/75 should be considered in order to perform a complete search.
- M F16L 53/70**
 - Cooling of pipes or pipe systems
- WARNING**
Group F16L 53/70 is incomplete pending reclassification of documents from group F16L 53/00.
Groups F16L 53/00 and F16L 53/70 should be considered in order to perform a complete search.
- M F16L 53/75**
 - using cooling fins
- WARNING**
Group F16L 53/75 is incomplete pending reclassification of documents from group F16L 53/00.
Groups F16L 53/00 and F16L 53/75 should be considered in order to perform a complete search.

Project: RP0614 (F23D)

- M F23D** **~~BURNERS (generating combustion products of high pressure or high velocity [F23R](#))~~**
- WARNING**
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
- U F23D 1/00** **Burners for combustion of pulverulent fuel (disposition of burners [F23C](#))**
- M F23D 1/005**
 - {burning a mixture of pulverulent fuel delivered as a slurry, i.e. comprising a carrying liquid (~~preparing slurries [F23K 1/02](#)~~)}
- U F23D 3/00** **Burners using capillary action**

- U F23D 3/02 • Wick burners
- M F23D 3/16 • • using candles ~~(candles per se C11G)~~
- M F23D 11/00 **Burners using a direct spraying action of liquid droplets or vaporised liquid into the combustion space ~~(spraying in general B05B, B05D)~~****
- U F23D 11/36 • Details {, e.g. burner cooling means, noise reduction means}
- M F23D 11/38 • • Nozzles ~~(nozzles in general B05B)~~; Cleaning devices therefor
- T F23D 11/44 • • Preheating devices; Vaporising devices ~~(vaporising devices per se F23K 5/22)~~
- M F23D 11/441 • • • {~~Vaporizing~~ **Vaporising** devices incorporated with burners}
- C F23D 11/443 • • • • {heated by the main burner flame}

WARNING

Group F23D 11/443 is impacted by reclassification into group F23D 11/445.

Groups F23D 11/443 and F23D 11/445 should be considered in order to perform a complete search.

- T F23D 11/445 • • • • {the flame and the vaporiser not coming into direct contact}

WARNING

Group F23D 11/445 is incomplete pending reclassification of documents from group F23D 11/443.

Groups F23D 11/443 and F23D 11/445 should be considered in order to perform a complete search.

- U F23D 14/00 **Burners for combustion of a gas, e.g. of a gas stored under pressure as a liquid****
- U F23D 14/02 • Premix gas burners, i.e. in which gaseous fuel is mixed with combustion air upstream of the combustion zone
- M F23D 14/04 • • induction type, e.g. Bunsen burner ~~((atmospheric or aerated gas burner))~~
- C F23D 14/12 • Radiant burners

WARNING

Group F23D 14/12 is impacted by reclassification into groups F23D 14/126, F23D 14/147, F23D 14/148, F23D 14/149 and F23D 14/151.

All groups listed in this Warning should be considered in order to perform a complete search.

- U F23D 14/125 • • {heating a wall surface to incandescence}
- N F23D 14/126 • • {cooperating with refractory wall surfaces}

WARNING

Group F23D 14/126 is incomplete pending reclassification of documents from groups F23D 14/12 and F23D 14/14.

All groups listed in this Warning should be considered in order to perform a complete search.

- C F23D 14/14 • • using screens or perforated plates

WARNING

Group F23D 14/14 is impacted by reclassification into groups F23D 14/126, F23D 14/145, F23D 14/147, F23D 14/148, F23D 14/149 and F23D 14/151.

All groups listed in this Warning should be considered in order to perform a complete search.

- T F23D 14/145
- • {~~the burner plate being a screen~~ *combustion being stabilised at a screen or a perforated plate*}
- WARNING
*Group F23D 14/145 is incomplete pending reclassification of documents from group F23D 14/14.
 Groups F23D 14/14 and F23D 14/145 should be considered in order to perform a complete search.*
- N F23D 14/147
- • {with perforated plates as radiation intensifying means}
- WARNING
*Group F23D 14/147 is incomplete pending reclassification of documents from groups F23D 14/12 and F23D 14/14.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- N F23D 14/148
- • {with grids, e.g. strips or rods, as radiation intensifying means}
- WARNING
*Group F23D 14/148 is incomplete pending reclassification of documents from groups F23D 14/12 and F23D 14/14.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- N F23D 14/149
- • {with wires, threads or gauzes as radiation intensifying means}
- WARNING
*Group F23D 14/149 is incomplete pending reclassification of documents from groups F23D 14/12 and F23D 14/14.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- N F23D 14/151
- • {with radiation intensifying means other than screens or perforated plates}
- WARNING
*Group F23D 14/151 is incomplete pending reclassification of documents from groups F23D 14/12 and F23D 14/14.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F23D 14/18
- • using catalysis for flameless combustion
- WARNING
*Group F23D 14/18 is impacted by reclassification into group F23D 14/181.
 Groups F23D 14/18 and F23D 14/181 should be considered in order to perform a complete search.*
- N F23D 14/181
- • {with carbon containing radiating surface}
- WARNING
*Group F23D 14/181 is incomplete pending reclassification of documents from group F23D 14/18.
 Groups F23D 14/18 and F23D 14/181 should be considered in order to perform a complete search.*
- M F23D 14/20
- Non-premix gas burners, i.e. in which gaseous fuel is mixed with combustion air on arrival at the combustion zone (~~F23D 14/30 – F23D 14/44 take precedence~~ *F23D 14/38 takes precedence*)
- M F23D 14/34
- Burners specially adapted for use with means for pressurising the gaseous fuel or the combustion air (~~F23D 14/38 takes precedence~~)

M	F23D 14/38	• Torches, e.g. for cutting, brazing, welding or heating { brazing or heating (nozzles for torches F23D 14/52 nozzles F23D 14/48)}
U	F23D 14/46	• Details {, e.g. noise reduction means}
M	F23D 14/48	• • Nozzles ((injectors for mixing devices F23D 14/64); for spraying or coating B05B)
M	F23D 14/56	• • • for spreading the flame over an area, e.g. for desurfacing of solid material, for surface hardening, or for heating workpieces, (scarfing by applying flames B23K 7/00)
M	F23D 14/60	• • Devices for simultaneous control of gas and combustion air (regulation of combustion in general F23N)
M	F23D 14/68	• • Treating the combustion air or gas, e.g. by filtering, by or moistening (in general B01)
M	F23D 14/72	• • Safety devices, e.g. operative in case of failure of gas supply (protection or supervision of pipe-line systems F17D 5/00)
M	F23D 14/74	• • • Preventing flame lift-off (F23D 14/70 takes precedence)
M	F23D 14/82	• • • Preventing flashback or blowback (F23D 14/70 takes precedence; (by use of a retention flame F23D 14/26); in gas feed lines A62C 4/02)
M	F23D 23/00	Assemblies of two or more burners (gas burners with provision for a retention flame F23D 14/26; disposition of burners F23C; for industrial furnaces F27)
M	F23D 91/00	{Burners specially adapted for specific applications, not otherwise provided for} NOTE {Combinations of spraying or vaporising means covered by sub-groups F23D 5/00 and F23D 91/00 are classified in F23D 11/008}
D	F23D 2700/00	TBD <administratively transferred to F23D 99/00>
D	F23D 2700/001	• Air supply for wick burners <administratively transferred to F23D 2900/31 ADD>
D	F23D 2700/002	• Wick burners without flame spreaders or burner hood <administratively transferred to F23D 2900/31001 ADD>
D	F23D 2700/003	• Wick burners with flame spreaders or burner hood <administratively transferred to F23D 2900/31002 ADD>
D	F23D 2700/004	• Inverted wick burners, wick burners using preheated air <administratively transferred to F23D 2900/31003 ADD>
D	F23D 2700/005	• Wick burners using alcohol as a fuel <administratively transferred to F23D 2900/31004 ADD>
D	F23D 2700/006	• Wick burners using oil as a fuel <administratively transferred to F23D 2900/31005 ADD>
D	F23D 2700/009	• Details of blue flame wick burners <administratively transferred to F23D 2900/31006 ADD>
D	F23D 2700/01	• Blue flame burners without flame spreader or burner hood <administratively transferred to F23D 2900/31007 ADD>

- D F23D 2700/011
 - Blue flame burners with flame spreader or burner hood without a bead at the wick-carrying tube
 - <administratively transferred to [F23D 2900/31008](#) ADD>
- D F23D 2700/012
 - Blue flame burners with flame spreader or burner hood with a bead at the wick-carrying tube
 - <administratively transferred to [F23D 2900/31009](#) ADD>
- D F23D 2700/013
 - Blue flame burners with flame on one side only without a bead at the wick-carrying tube
 - <administratively transferred to [F23D 2900/3101](#) ADD>
- D F23D 2700/014
 - Blue flame burners with flame on one side only and a bead at the wick-carrying tube
 - <administratively transferred to [F23D 2900/31011](#) ADD>
- D F23D 2700/015
 - Tubes carrying the wick
 - <administratively transferred to [F23D 3/24](#) INV>
- D F23D 2700/016
 - Safety devices for wick-carrying tubes
 - <administratively transferred to [F23D 3/26](#) INV>
- D F23D 2700/017
 - Wick-adjusting devices directly engaging the wick
 - <administratively transferred to [F23D 2900/31012](#) ADD>
- D F23D 2700/018
 - Wick-adjusting devices engaging the tube carrying the wick
 - <administratively transferred to [F23D 2900/31013](#) ADD>
- D F23D 2700/019
 - Wick stop devices and wick fixing devices
 - <administratively transferred to [F23D 2900/31014](#) ADD>
- D F23D 2700/02
 - Devices for mounting the wick to the carrier
 - <administratively transferred to [F23D 2900/31015](#) ADD>
- D F23D 2700/021
 - Burners in which the gas produced in the wick is not burned instantaneously
 - <administratively transferred to [F23D 2900/31016](#) ADD>
- D F23D 2700/022
 - Burners using carburetted gas
 - <administratively transferred to [F23D 2900/31017](#) ADD>
- D F23D 2700/023
 - Gasifying and evaporating devices
 - <administratively transferred to [F23D 11/44](#) INV>
- D F23D 2700/024
 - Nozzles and cleaning devices therefor
 - <administratively transferred to [F23D 2900/31018](#) ADD>
- D F23D 2700/025
 - Mixing tubes and burner heads
 - <administratively transferred to [F23D 2900/31019](#) ADD>
- D F23D 2700/026
 - Preheating devices, starting devices
 - <administratively transferred to [F23D 2900/3102](#) ADD>
- D F23D 2700/027
 - Vaporisers with devices for controlling the feeding of the fuel
 - <administratively transferred to [F23D 2900/31021](#) ADD>
- D F23D 2700/03
 - Alcohol vapour burners
 - <administratively transferred to [F23D 2900/31022](#) ADD>
- D F23D 2700/031
 - Vapour burners where the vaporiser is heated by an auxiliary flame
 - <administratively transferred to [F23D 11/446](#) INV>
- D F23D 2700/032
 - Vapour burners where the vaporiser is heated by the main flame itself
 - <administratively transferred to [F23D 11/443](#) INV>

- D F23D 2700/033 · Vapour burners where the vaporiser is heated by conduction
<administratively transferred to [F23D 2900/31023](#) ADD>
- U F23D 2900/00 Special features of, or arrangements for burners using fluid fuels or solid fuels suspended in a carrier gas**
- U F23D 2900/14 · Special features of gas burners
- U F23D 2900/1412 · · for radiant burners
- D F23D 2900/14121 · · · ~~with radiation intensifying means~~
<administratively transferred to [F23D 14/151](#) INV>
- D F23D 2900/14122 · · · ~~with extra radiation grids, e.g. strips or rods~~
<administratively transferred to [F23D 14/148](#) INV>
- D F23D 2900/14123 · · · ~~with radiation intensifying perforated plates~~
<administratively transferred to [F23D 14/147](#) INV>
- D F23D 2900/14124 · · · ~~cooperating with refractory wall surfaces~~
<administratively transferred to [F23D 14/126](#) INV>
- D F23D 2900/14125 · · · ~~with extra radiation screens, e.g. wires, threads or gauzes~~
<administratively transferred to [F23D 14/149](#) INV>
- D F23D 2900/14181 · · · ~~Catalytic type with carbon containing radiating surface~~
<administratively transferred to [F23D 14/181](#) INV>
- U F23D 2900/21 · Burners specially adapted for a particular use
- U F23D 2900/21007 · · for producing soot, e.g. nanoparticle soot
- N F23D 2900/31 · *Air supply for wick burners*
- N F23D 2900/31001 · *Wick burners without flame spreaders or burner hood*
- N F23D 2900/31002 · *Wick burners with flame spreaders or burner hood*
- N F23D 2900/31003 · *Inverted wick burners, Wick burners using preheated air*
- N F23D 2900/31004 · *Wick burners using alcohol as a fuel*
- N F23D 2900/31005 · *Wick burners using oil as a fuel*
- N F23D 2900/31006 · *Details of blue flame wick burners*
- N F23D 2900/31007 · *Blue flame burners without flame spreader or burner hood*
- N F23D 2900/31008 · *Blue flame burners with flame spreader or burner hood without a bead at the wick carrying tube*
- N F23D 2900/31009 · *Blue flame burners with flame spreader or burner hood with a bead at the wick carrying tube*
- N F23D 2900/3101 · *Blue flame burners with flame on one side only without a bead at the wick carrying tube*
- N F23D 2900/31011 · *Blue flame burners with flame on one side only and a bead at the wick carrying tube*
- N F23D 2900/31012 · *Wick adjusting devices directly engaging the wick*
- N F23D 2900/31013 · *Wick adjusting devices engaging the tube carrying the wick*
- N F23D 2900/31014 · *Wick stop devices and wick fixing devices*
- N F23D 2900/31015 · *Devices for mounting the wick to the carrier*
- N F23D 2900/31016 · *Burners in which the gas produced in the wick is not burned instantaneously*
- N F23D 2900/31017 · *Burners using carburetted gas*
- N F23D 2900/31018 · *Nozzles and cleaning devices therefor*
- N F23D 2900/31019 · *Mixing tubes and burner heads*
- N F23D 2900/3102 · *Preheating devices; Starting devices*

- N F23D 2900/31021 · Vaporisers with devices for controlling the feeding of the fuel
- N F23D 2900/31022 · Alcohol vapour burners
- N F23D 2900/31023 · Vapour burners where the vaporiser is heated by conduction

Project: RP0674 (G01D)

- U G01D 3/00** **Indicating or recording apparatus with provision for the special purposes referred to in the subgroups**
- U G01D 3/06 · with provision for operation by a null method
- M G01D 3/066 · {Balancing a force which represents the measuring value, by means of a reference force ~~{force measuring per se G01L}~~}
- M G01D 5/00** **Mechanical means for transferring the output of a sensing member; Means for converting the output of a sensing member to another variable where the form or nature of the sensing member does not constrain the means for converting; Transducers not specially adapted for a specific variable (G01D 3/00 takes precedence; specially adapted for apparatus giving results other than momentary value of variable G01D 1/00; sensing members, see the relevant subclasses, e.g. of G01, H01; for converting a single current or a single voltage into a mechanical displacement G01R 5/00; specially adapted for high-voltage or high-current measuring arrangements G01R 15/04, G01R 15/14; measuring currents or voltages using digital measurement techniques G01R 19/25; transmission systems for measured values, control or similar signals G08C, e.g. electrical signals G08C 19/00)**

NOTE

The subgroups of this main group are distinguished by the means which is of major importance. Thus the mere application of other means for giving a final indication does not affect the classification.

- U G01D 5/12 · using electric or magnetic means (G01D 5/06 takes precedence)
- M G01D 5/125 · {characterised by a first part whose movement represents the measuring value, and by a second part which is moved by an external force in order to follow the movement of the first part ~~(this group takes precedence on the following groups)~~}
- U G01D 5/14 · influencing the magnitude of a current or voltage
- C G01D 5/18 · by varying effective impedance of discharge tubes or semiconductor devices

WARNING

Group G01D 5/18 is impacted by reclassification into groups G01D 5/183 and G01D 5/185.
Groups G01D 5/18, G01D 5/183 and G01D 5/185 should be considered in order to perform a complete search.

- N G01D 5/183 · · · {Sensing rotation or linear movement using strain, force or pressure sensors}
- WARNING**
Groups G01D 5/183 and G01D 5/185 are incomplete pending reclassification of documents from group G01D 5/18.
Groups G01D 5/18, G01D 5/183 and G01D 5/185 should be considered in order to perform a complete search.
- N G01D 5/185 · · · · {using piezoelectric sensors}
- U G01D 5/20 · · by varying inductance, e.g. by a movable armature
- U G01D 5/22 · · · differentially influencing two coils

- U G01D 5/225 {by influencing the mutual induction between the two coils}
- U G01D 5/2258 {by a movable ferromagnetic element, e.g. core}
- M G01D 5/2266 {~~especially specially~~ adapted circuits therefor ~~{measuring inductance per se G01R 27/2611; measuring transformation ratio or coupling factor of windings per se G01R 29/20}~~}
- C G01D 5/24 . . . by varying capacitance

WARNING

Group G01D 5/24 is impacted by reclassification into group G01D 5/2403. Groups G01D 5/24 and G01D 5/2403 should be considered in order to perform a complete search.

- N G01D 5/2403 {by moving plates, not forming part of the capacitor itself, e.g. shields}

WARNING

Group G01D 5/2403 is incomplete pending reclassification of documents from groups G01D 5/24, G01D 5/241, G01D 5/2412 and G01D 5/2415. Groups G01D 5/24, G01D 5/241, G01D 5/2412, G01D 5/2415 and G01D 5/2403 should be considered in order to perform a complete search.

- U G01D 5/2405 {by varying dielectric}
- C G01D 5/241 by relative movement of capacitor electrodes

WARNING

Groups G01D 5/241, G01D 5/2412 and G01D 5/2415 are impacted by reclassification into group G01D 5/2403. Groups G01D 5/241, G01D 5/2412, G01D 5/2415 and G01D 5/2403 should be considered in order to perform a complete search.

- C G01D 5/2412 {by varying overlap}
- C G01D 5/2415 {adapted for encoders}
- U G01D 5/244 . . influencing characteristics of pulses or pulse trains; generating pulses or pulse trains
- U G01D 5/24428 . . . {Error prevention}
- D G01D 5/24452 {Calibration}
- <administratively transferred to G01D 18/001>
- U G01D 5/26 . characterised by optical transfer means, i.e. using infra-red, visible, or ultra-violet light
- U G01D 5/32 . . with attenuation or whole or partial obturation of beams of light (G01D 5/40 takes precedence {; mechanical adjustment G01D 5/264})
- U G01D 5/34 . . . the beams of light being detected by photocells
- U G01D 5/347 using displacement encoding scales
- U G01D 5/34776 {Absolute encoders with analogue or digital scales}
- U G01D 5/34784 {with only analogue scales or both analogue and incremental scales}
- C G01D 5/34792 {with only digital scales or both digital and incremental scales}

WARNING

Group G01D 5/34792 is impacted by reclassification into group G01D 5/34794. Groups G01D 5/34792 and G01D 5/34794 should be considered in order to perform a complete search.

N	G01D 5/34794	<ul style="list-style-type: none"> • • • • • {Optical encoders using the Vernier principle, i.e. incorporating two or more tracks having a (n, n+1, ...) relationship} <p><u>WARNING</u> Group G01D 5/34794 is incomplete pending reclassification of documents from group G01D 5/34792. Groups G01D 5/34792 and G01D 5/34794 should be considered in order to perform a complete search.</p>
U	G01D 5/353	<ul style="list-style-type: none"> • • • • influencing the transmission properties of an optical fibre
U	G01D 5/35338	<ul style="list-style-type: none"> • • • • • {using other arrangements than interferometer arrangements}
U	G01D 5/35354	<ul style="list-style-type: none"> • • • • • {Sensor working in reflection}
M	G01D 5/35358	<ul style="list-style-type: none"> • • • • • {using Backscatteringbackscattering to detect the measured quantity}
M	G01D 5/35361	<ul style="list-style-type: none"> • • • • • {using inelastic backscattering, e.g. Rayleigh, to detect the measured quantityelastic backscattering to detect the measured quantity, e.g. using Rayleigh backscattering}
M	G01D 5/35364	<ul style="list-style-type: none"> • • • • • {using elastic backscattering, i.e. Brillouin or Raman, to detect the measured quantityinelastic backscattering to detect the measured quantity, e.g. using Brillouin or Raman backscattering}
U	G01D 5/42	<ul style="list-style-type: none"> • using fluid means
M	G01D 5/425	<ul style="list-style-type: none"> • {characterised by a first part whose movement represents the measuring value, and by a second part which is moved by an external force in order to follow the movement of the first part (this group takes precedence on the following groups)}
U	G01D 9/00	Recording measured values
C	G01D 9/005	<ul style="list-style-type: none"> • {Solid-state data-loggers} <p><u>WARNING</u> Group G01D 9/005 is impacted by reclassification into group G01D 9/007. Groups G01D 9/005 and G01D 9/007 should be considered in order to perform a complete search.</p>
N	G01D 9/007	<ul style="list-style-type: none"> • {Data loggers attached to transport containers for perishable products, e.g. food or medicines} <p><u>WARNING</u> Group G01D 9/007 is incomplete pending reclassification of documents from group G01D 9/005. Groups G01D 9/005 and G01D 9/007 should be considered in order to perform a complete search.</p>
U	G01D 11/00	Component parts of measuring arrangements not specially adapted for a specific variable (G01D 13/00, G01D 15/00 take precedence)
U	G01D 11/24	<ul style="list-style-type: none"> • Housings {; Casings for instruments}
M	G01D 11/245	<ul style="list-style-type: none"> • {Housings for sensors (for particular sensors see the relevant subclasses; e.g. G01J 5/04, G01K 1/14, G01L 19/14, G01P 1/02, G01R 1/04, G10K 11/004)}
U	G01D 15/00	Component parts of recorders for measuring arrangements not specially adapted for a specific variable
M	G01D 15/34	<ul style="list-style-type: none"> • Recording surfaces {(for printing or reproducing B41M)}
M	G01D 18/00	Testing or calibrating of apparatus or arrangements provided for in groups G01D 1/00 - G01D 15/00
N	G01D 18/001	<ul style="list-style-type: none"> • {Calibrating encoders}

N	G01D 2204/00	Indexing scheme relating to details of tariff-metering apparatus
N	G01D 2204/10	• Analysing; Displaying
N	G01D 2204/12	• • Determination or prediction of behaviour, e.g. likely power consumption or unusual usage patterns
N	G01D 2204/125	• • • Utility meter reading systems specially adapted for determining the environmental impact of user behaviour
N	G01D 2204/14	• • Displaying of utility usage with respect to time, e.g. for monitoring evolution of usage or with respect to weather conditions
N	G01D 2204/16	• • Displaying of utility pricing or cost
N	G01D 2204/18	• • Remote displaying of utility meter readings
N	G01D 2204/20	• Monitoring; Controlling
N	G01D 2204/22	• • Arrangements for detecting or reporting faults, outages or leaks
N	G01D 2204/24	• • Identification of individual loads, e.g. by analysing current/voltage waveforms
N	G01D 2204/26	• • Remote utility meter reading systems with control function, i.e. reading systems including mechanisms for turning on/off the supply
N	G01D 2204/28	• • Processes or tasks scheduled according to the power required, the power available or the power price
N	G01D 2204/30	• Remote utility meter reading systems specially adapted for metering the generated energy or power
N	G01D 2204/35	• • Monitoring the performance of renewable electricity generating systems, e.g. of solar panels
N	G01D 2204/40	• Networks; Topology
N	G01D 2204/43	• • Identification of a specific meter
N	G01D 2204/45	• • Utility meters networked together within a single building
N	G01D 2204/47	• • Methods for determining the topology or arrangement of meters in a network
N	G01D 2205/00	Indexing scheme relating to details of means for transferring or converting the output of a sensing member
N	G01D 2205/10	• Detecting linear movement
N	G01D 2205/14	• • by converting the linear movement into a rotary movement
N	G01D 2205/18	• • using magnetic means not otherwise provided for in this subclass
N	G01D 2205/20	• Detecting rotary movement
N	G01D 2205/22	• • by converting the rotary movement into a linear movement
N	G01D 2205/24	• • using magnetic means not otherwise provided for in this subclass
N	G01D 2205/26	• • Details of encoders or position sensors specially adapted to detect rotation beyond a full turn of 360°, e.g. multi-rotation
N	G01D 2205/28	• • The target being driven in rotation by additional gears
N	G01D 2205/40	• Position sensors comprising arrangements for concentrating or redirecting magnetic flux
N	G01D 2205/50	• Grounding or electrostatically shielding a position sensor or encoder
N	G01D 2205/60	• Means for precisely aligning or centering the disk of a rotary encoder, e.g. fitting jigs
N	G01D 2205/70	• Position sensors comprising a moving target with particular shapes, e.g. of soft magnetic targets
N	G01D 2205/73	• • Targets mounted eccentrically with respect to the axis of rotation
N	G01D 2205/77	• • Specific profiles
N	G01D 2205/771	• • • Toothed profiles
N	G01D 2205/772	• • • Sawtooth profiles

- N G01D 2205/773 · · · Spiral profiles
- N G01D 2205/774 · · · Profiles with a discontinuity, e.g. edge or stepped profile
- N G01D 2205/775 · · · Tapered profiles
- N G01D 2205/776 · · · Cam-shaped profiles
- N G01D 2205/777 · · · Whorl-shaped profiles
- N G01D 2205/80 · Manufacturing details of magnetic targets for magnetic encoders
- N G01D 2205/85 · Determining the direction of movement of an encoder, e.g. of an incremental encoder
- N G01D 2205/90 · Two-dimensional encoders, i.e. having one or two codes extending in two directions
- N G01D 2205/95 · Three-dimensional encoders, i.e. having codes extending in three directions
- N G01D 2207/00 *Indexing scheme relating to details of indicating measuring values***
- N G01D 2207/10 · Displays which are primarily used in aircraft or display aircraft-specific information
- N G01D 2207/20 · Displays for vehicles in which information is superimposed on an external view, e.g. heads-up displays or enhanced reality displays
- N G01D 2207/30 · Displays providing further information, in addition to measured values, e.g. status
- N G01D 2213/00 *Indexing scheme relating to constructional details of indicators***
- N G01D 2213/10 · Drivers for gauges
- N G01D 2213/20 · Gauges having a single pointer and two or more scales
- N G01D 2218/00 *Indexing scheme relating to details of testing or calibration***
- N G01D 2218/10 · Testing of sensors or measuring arrangements

Project: MP0474 (G01L)

- U G01L 1/00 Measuring force or stress, in general (measuring force due to impact G01L 5/00)**
- M G01L 1/08 · by the use of counterbalancing forces ~~{{automatic balancing arrangements for measuring electric variables in which a force or torque representing the measured value is balanced by a force or torque representing the reference value G01R 17/08}}~~
- M G01L 1/10 · by measuring variations of frequency of stressed vibrating elements, e.g. of stressed strings (using resistance strain gauges G01L 1/22 ~~;- using piezo-resistive vibrators G01L 1/183~~)
- U G01L 1/12 · by measuring variations in the magnetic properties of materials resulting from the application of stress
- M G01L 1/125 · · {by using magnetostrictive means (~~magnetostrictive devices in general H01L 41/12~~; magnetostrictive sensors H01L 41/125)}
- M G01L 3/00 Measuring torque, work, mechanical power, or mechanical efficiency, in general**
- U G01L 3/02 · Rotary-transmission dynamometers
- U G01L 3/04 · · wherein the torque-transmitting element comprises a torsionally-flexible shaft
- M G01L 3/10 · · · involving ~~electrical~~electric or magnetic means for indicating
- U G01L 3/101 · · · · {involving magnetic or electromagnetic means}
- M G01L 3/102 · · · · · {involving ~~magnetostictive~~magnetostrictive means (~~magnetostrictive devices in general H01L 41/12~~; magnetostrictive sensors H01L 41/125)}
- U G01L 3/16 · Rotary-absorption dynamometers, e.g. of brake type

M	G01L 3/22	<ul style="list-style-type: none"> • electrically or magnetically actuated-{(electrical or magnetic brakes in general H02K-49/00)}
U	G01L 5/00	Apparatus for, or methods of, measuring force, work, mechanical power, or torque, specially adapted for specific purposes
U	G01L 5/0061	<ul style="list-style-type: none"> • {Force sensors associated with industrial machines or actuators (for the specific machine or actuator involved <u>see</u> relevant class, e.g. F01, F04, F16, B66, E21)}
M	G01L 5/0066	<ul style="list-style-type: none"> • • {Calibration arrangements-(calibration of force sensors in general G01L-25/00)}
U	G01L 5/0076	<ul style="list-style-type: none"> • • {Force sensors associated with manufacturing machines (G01L 5/0066, G01L 5/0071 and B23Q 17/09 take precedence; for the specific machine or operation involved <u>see</u> relevant class, e.g. B21 - B42)}
M	G01L 5/009	<ul style="list-style-type: none"> • • • {Force sensors associated with material gripping devices-(manipulators in general G01L-5/22)}
U	G01L 5/04	<ul style="list-style-type: none"> • for measuring tension in flexible members, e.g. ropes, cables, wires, threads, belts or bands {(G01L 5/0004 takes precedence)}
M	G01L 5/045	<ul style="list-style-type: none"> • • {for measuring the tension across the width of a band-shaped flexible member (measuring flatness G01B; metal rolling in general B21B)}
U	G01L 5/24	<ul style="list-style-type: none"> • for determining value of torque or twisting moment for tightening a nut or other member which is similarly stressed
M	G01L 5/246	<ul style="list-style-type: none"> • • {using acoustic waves-(for force in general G01L-1/255)}
M	G01L 7/00	Measuring the steady or quasi-steady pressure of a fluid or a fluent solid material by mechanical or fluid pressure-sensitive elements ({(G01L-11/04 G01L 11/004 takes precedence;} transmitting or indicating the displacement of mechanical pressure-sensitive elements by electric {, e.g., photoelectric} or magnetic means G01L 9/00 ; measuring differences of two or more pressure values G01L 13/00 ; measuring two or more pressure values simultaneously G01L 15/00 - }; pressure sensitive fluidum level or volume measuring devices G01F-17/00, G01F 23/14; pressure sensitive depth meters G01C-13/008; aircraft altitude meters G01C-5/005})
U	G01L 9/00	Measuring steady of quasi-steady pressure of fluid or fluent solid material by electric or magnetic pressure-sensitive elements {(G01L 11/004 takes precedence)}; Transmitting or indicating the displacement of mechanical pressure-sensitive elements, used to measure the steady or quasi-steady pressure of a fluid or fluent solid material, by electric or magnetic means (measuring differences of two or more pressure values G01L 13/00; measuring two or more pressure values simultaneously G01L 15/00)
M	G01L 9/0026	<ul style="list-style-type: none"> • {Transmitting or indicating the displacement of flexible, deformable tubes by electric, electro-mechanical, magnetic or electro-magneticelectromechanical, magnetic or electromagnetic means (G01L 9/0008 takes precedence;pressure sensitive flexible, deformable tubes in general G01L-7/04)}
M	G01L 9/0033	<ul style="list-style-type: none"> • {Transmitting or indicating the displacement of bellows by electric, electro-mechanical, magnetic, or electro-magneticelectromechanical, magnetic, or electromagnetic means (G01L 9/0008 takes precedence;pressure sensitive bellows in general G01L-7/06)}
M	G01L 9/0041	<ul style="list-style-type: none"> • {Transmitting or indicating the displacement of flexible diaphragms-(pressure sensitive flexible diaphragms in general G01L-7/08)}
M	G01L 9/0082	<ul style="list-style-type: none"> • {Transmitting or indicating the displacement of capsules by electric, electro-mechanical, magnetic, or electro-mechanicalelectromechanical, magnetic, or electromagnetic means (G01L 9/0008 takes precedence;pressure sensitive capsules in general G01L-7/10)}

- M G01L 9/0089 • {Transmitting or indicating the displacement of pistons by electrical, ~~electro-mechanical, magnetic or electro-magnetic~~*electromechanical, magnetic or electromagnetic* means ([G01L 9/0008](#) takes precedence; ~~pressure-sensitive pistons in general G01L 7/16~~)}
- M G01L 9/0091 • {Transmitting or indicating the displacement of liquid mediums by electrical, ~~electro-mechanical, magnetic or electro-magnetic~~*electromechanical, magnetic or electromagnetic* means ([G01L 9/0008](#) takes precedence; ~~pressure-sensitive liquid mediums in general G01L 7/18~~)}
- M G01L 9/02 • by making use of variations in ohmic resistance, e.g. of potentiometers, ~~{, i.e. {,~~ electric circuits therefor, e.g. bridges, amplifiers or signal conditioning}
- U G01L 19/00** **Details of, or accessories for, apparatus for measuring steady or quasi-steady pressure of a fluent medium insofar as such details or accessories are not special to particular types of pressure gauges**
- M G01L 19/04 • Means for compensating for effects of changes of temperature {, i.e. other than electric compensation ~~(electric compensation G01L 9/025, G01L 9/045, G01L 9/065, G01L 9/085, G01L 9/105 or G01L 9/125)~~}
- U G01L 19/06 • Means for preventing overload or deleterious influence of the measured medium on the measuring device or *vice versa*
- U G01L 19/0627 • • {Protection against aggressive medium in general}
- M G01L 19/0645 • • • {using isolation membranes, specially adapted for protection ~~(use of coupling membranes with a coupling fluid in general G01L 19/0046)~~}
- M G01L 19/0672 • • {Leakage or rupture protection or detection ~~(detection of leakage per se G01M 3/00)~~}
- U G01L 19/14 • Housings {([G01L 19/0007](#), [G01L 19/0084](#), [G01L 19/0092](#), [G01L 19/04](#), [G01L 19/06](#) take precedence)}
- M G01L 19/149 • • {of immersion sensor, e.g. where the sensor is immersed in the measuring medium or for in vivo measurements, e.g. by using catheter tips ~~(catheter tips per se A61M 25/0067; pressure measurements in the body A61B 5/00)~~}
- U G01L 21/00** **Vacuum gauges**
- U G01L 21/16 • by measuring variation of frictional resistance of gases
- M G01L 21/24 • • using rotating members; Vacuum gauges of the Langmuir type ~~((Langmuir probes for plasma diagnostics H05H 1/0006))~~
- U G01L 27/00** **Testing or calibrating of apparatus for measuring fluid pressure**
- M G01L 27/002 • {Calibrating, i.e. establishing true relation between transducer output value and value to be measured, zeroing, linearising or span error determination ~~(calibration of sensors per se G01D 18/00)~~}
- M G01L 27/007 • {Malfunction diagnosis, i.e. diagnosing a sensor defect ~~(malfunction detection of sensor not measuring a specific variable per se G01D 3/08)~~}

Project: MP0425 (G01R)

- M G01R** **MEASURING ELECTRIC VARIABLES; MEASURING MAGNETIC VARIABLES** (~~measuring physical variables of any kind by conversion into electric variables, see Note (4) following the title of class G01; measuring diffusion of ions in an electric field, e.g. electrophoresis, electro-osmosis G01N; investigating non-electric or non-magnetic properties of materials by using electric or magnetic methods G01N; indicating correct tuning of resonant circuits H03J 3/12; monitoring electronic pulse counters H03K 21/40; monitoring operation of communication systems H04~~)

NOTES

1. This subclass covers:

- measuring all kinds of electric or magnetic variables directly or by derivation from other electric or magnetic variables;
 - measuring all kinds of electric or magnetic properties of materials;
 - testing electric or magnetic devices, apparatus or networks, (e.g. discharge tubes, amplifiers) or measuring their characteristics;
 - indicating presence or sign of current or voltage;
 - NMR, EPR or other spin-effect apparatus, not specially adapted for a particular application;
 - equipment for generating signals to be used for carrying out such tests and measurements.
2. In this subclass, the following terms or expressions are used with the meanings indicated :
- "measuring" includes investigating;
 - "instruments" or "measuring instruments" means electro-mechanical measuring mechanisms;
 - "arrangements for measuring" means apparatus, circuits, or methods for measuring;
3. Attention is drawn to the Notes following the title of class [G01](#).
4. In this subclass, instruments or arrangements for measuring electric variables are classified in the following way:
- Electromechanical instruments where the measured electric variables ~~directly~~*directly* effect the indication of the measured value, including combined effects of two or more values, are classified in groups [G01R 5/00](#) - [G01R 11/00](#).
 - Details common to different types of the instruments covered by groups [G01R 5/00](#) - [G01R 11/00](#) are classified in group [G01R 1/00](#).
 - Arrangements involving circuitry to obtain an indication of a measured value by deriving, calculating or otherwise processing electric variables, e.g. by comparison with another value, are classified in groups [G01R 17/00](#) - [G01R 29/00](#).
 - Details common to different types of arrangements covered by groups [G01R 17/00](#) - [G01R 29/00](#) are classified in group [G01R 15/00](#).
- 5. In this subclass, group [G01R 17/00](#) takes precedence over groups [G01R 19/00](#) - [G01R 31/00](#).*

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U	G01R 1/00	Details of instruments or arrangements of the types included in groups G01R 5/00 - G01R 13/00 and G01R 31/00 (constructional details particular to {electromechanical} arrangements for measuring the electric consumption G01R 11/02)
M	G01R 1/02	• General constructional details- {details of a kind applicable to measuring arrangements not specially adapted for a specific variable G01D 7/00}
M	G01R 1/04	• • Housings; Supporting members; Arrangements of terminals- ("burn-in" aspects G01R 31/286; terminals H01R; terminal strips or boards H02B; housings for electrical apparatus H05K)
M	G01R 1/06	• • Measuring leads; Measuring probes (G01R 19/145 , G01R 19/165 take precedence;- end pieces for leads H01R 11/00)
M	G01R 1/067	• • • Measuring probes- {(plugs, sockets or clips G01R 1/0408; testing of connections G01R 31/66; contacting IC's for test purposes when probe design is not the essential feature G01R 31/2886; using radiation beam as probe G01R 31/302; end pieces for wires terminating in a probe H01R 11/18)}

M	G01R 1/07	<ul style="list-style-type: none"> • • • Non-contact-making probes {{(wireless interface with the DUT G01R 31/3025)}}
M	G01R 1/073	<ul style="list-style-type: none"> • • • Multiple probes {{(G01R 1/06783, G01R 1/06794, G01R 1/071, G01R 1/072 take precedence)}}
M	G01R 1/10	<ul style="list-style-type: none"> • Arrangements of bearings (bearings in general F16C)
M	G01R 1/16	<ul style="list-style-type: none"> • Magnets (in general H01F)
M	G01R 1/18	<ul style="list-style-type: none"> • Screening arrangements against electric or magnetic fields, e.g. against earth's field {{(measuring shielding efficiency H05K 9/0069)}}
M	G01R 1/20	<ul style="list-style-type: none"> • Modifications of basic electric elements for use in electric measuring instruments; Structural combinations of such elements with such instruments (instrument transformers per se H01F 38/20)
M	G01R 1/22	<ul style="list-style-type: none"> • Tong testers acting as secondary windings of current transformers (voltage or current isolation using transformers G01R 15/18)
M	G01R 1/36	<ul style="list-style-type: none"> • Overload-protection arrangements or circuits for electric measuring instruments (in general H02H)
M	G01R 1/38	<ul style="list-style-type: none"> • Arrangements for altering the indicating characteristic, e.g. by modifying the air gap {{(circuits G01R 15/005)}}
M	G01R 1/44	<ul style="list-style-type: none"> • Modifications of instruments for temperature compensation {{(when measuring current or voltage G01R 19/32)}}
M	G01R 5/00	Instruments for converting a single current or a single voltage into a mechanical displacement (vibration galvanometers G01R 9/02)
M	G01R 5/22	<ul style="list-style-type: none"> • Thermoelectric instruments (measuring effective values of currents or voltages using thermoconverters G01R 19/03)
M	G01R 5/28	<ul style="list-style-type: none"> • Electrostatic instruments (combined with radiation detector G01T; {electrometers without passively moving electrodes G01R 15/165; measuring electrostatic fields G01R 29/12; measuring charge G01R 29/24})
M	G01R 11/00	Electromechanical arrangements for measuring time integral of electric power {, i.e. electric energy} or current, e.g. of consumption ({other arrangements for measuring time integral of electric power or current G01R 22/00; boards, panels, desks for energy meters, H02B 1/03}; monitoring electric consumption of electrically-propelled vehicles B60L 3/00)
NOTES		
1. Groups G01R 11/48 - G01R 11/56 take precedence over groups G01R 11/30 - G01R 11/46 .		
{This Note corresponds to IPC Note (1) relating to G01R 11/30 - G01R 11/46 .}		
2. For the definition of "arrangement" see Note (2) under G01R		
M	G01R 11/02	<ul style="list-style-type: none"> • Constructional details (applicable to electric measuring instruments in general G01R 1/00)
M	G01R 11/12	<ul style="list-style-type: none"> • Arrangements of bearings (bearings in general F16C)
M	G01R 11/24	<ul style="list-style-type: none"> • Arrangements for avoiding or indicating fraudulent use {{(measures against unauthorised operation of bolts, nuts or pins F16B 41/005; security seals G09F 3/03; preventing of tampering with detection circuits in signaling or alarm circuits G08B 29/046)}}
M	G01R 11/25	<ul style="list-style-type: none"> • Arrangements for indicating or signalling faults (seals G09F 3/03; preventing tampering with detection circuits in signalling or alarm circuits G08B 29/046)
M	G01R 11/36	<ul style="list-style-type: none"> • Induction meters, e.g. Ferraris meters (Ferraris instruments G01R 5/20)
M	G01R 11/56	<ul style="list-style-type: none"> • Special tariff meters (tariff metering in general G01D 4/00)

M	G01R 13/00	Arrangements for displaying electric variables or waveforms (display by mechanical displacement only G01R 5/00, G01R 7/00, G01R 9/00; recording frequency spectrum G01R 23/18)
M	G01R 13/02	• for displaying measured electric variables in digital form (using LCD's or LED's G01R 13/40); counters G06M; analogue/digital conversion in general H03M 1/00)
M	G01R 13/20	• Cathode-ray oscilloscopes }; Oscilloscopes using other screens than CRT's, e.g. LCD's; (control arrangements or circuits for cathode-ray tube indicators G09G 1/00; cathode ray tubes H01J 31/00)
M	G01R 13/22	• • Circuits therefor (circuits for generating pulses, e.g. saw-tooth waveforms H03K 3/00)
M	G01R 13/26	• • • Circuits for controlling the intensity of the electron beam {or the colour of the display} (brilliance control H01J 29/98)
M	G01R 13/28	• • • Circuits for simultaneous or sequential presentation of more than one variable (electronic switches H03K 17/00)
M	G01R 13/34	• • • Circuits for representing a single waveform by sampling, e.g. for very high frequencies (sample and hold arrangements G11C 27/02)
M	G01R 13/36	• using length of glow discharge, e.g. glowlight oscilloscopes (discharge tubes H01J)
M	G01R 13/38	• using the steady or oscillatory displacement of a light beam by an electromechanical measuring system (such measuring systems per se G01R 5/00, G01R 7/00, G01R 9/00)
M	G01R 15/00	Details of measuring arrangements of the types provided for in groups <u>G01R 17/00</u> - <u>G01R 29/00</u> and, <u>G01R 33/00</u> - <u>G01R 33/26</u> or <u>G01R 35/00</u> (details of instruments G01R 1/00; overload protection arrangements G01R 1/36)
U	G01R 15/04	• Voltage dividers
M	G01R 15/06	• • having reactive components, e.g. capacitive transformer (when the HV capacitor/sensor as such is the essential G01R 15/16)
M	G01R 15/14	• Adaptations providing voltage or current isolation, e.g. for high-voltage or high-current networks (instrument transformers H01F 38/20; voltage dividers G01R 15/04; {means for converting the output of a sensing member to another variable G01D 5/00; visible signalling arrangements or devices G08B 5/00; transmission systems for measured values G08C 17/00, G08C 23/00})
M	G01R 15/16	• • using capacitive devices (circuits constituting a voltage divider G01R 15/06)
M	G01R 15/20	• • using galvano-magnetic devices, e.g. Hall-effect devices {, i.e. measuring a magnetic field via the interaction between a current and a magnetic field, e.g. magneto resistive or Hall effect devices (electromechanical such devices; G01R 5/00, G01R 7/00, G01R 9/00; measuring magnetic fields G01R 33/02)}
U	G01R 17/00	Measuring arrangements involving comparison with a reference value, e.g. bridge
M	G01R 17/10	• ac or dc <u>AC or DC</u> measuring bridges (automatic comparison or re-balancing arrangements G01R 17/02)
M	G01R 17/20	• ac or dc <u>AC or DC</u> potentiometric measuring arrangements (automatic comparison or re-balancing arrangements G01R 17/02)

M	G01R 19/00	<p>Arrangements for measuring currents or voltages or for indicating presence or sign thereof (G01R 5/00 takes precedence }; voltage measurements using secondary electron emission when testing electronic circuits G01R 31/305); for measuring bioelectric currents or voltages A61B 5/24)</p> <p><u>NOTE</u></p> <p>Within groups G01R 19/02 - G01R 19/32, group G01R 19/28 takes precedence. Groups G01R 19/18 - G01R 19/257 take precedence over groups G01R 19/02 - G01R 19/17 and G01R 19/30.</p>
U	G01R 19/02	<ul style="list-style-type: none"> Measuring effective values, i.e. root-mean-square values
M	G01R 19/03	<ul style="list-style-type: none"> • using thermoconverters {{(using ac-dc conversion by means of thermocouples or other heat sensitive elements G01R 19/225)}}
M	G01R 19/12	<ul style="list-style-type: none"> Measuring rate of change {{(emergency protective circuit arrangements responsive to the rate of change of electrical quantities H02H 3/44)}}
M	G01R 19/145	<ul style="list-style-type: none"> Indicating the presence of current or voltage {{(measuring probes in general G01R 1/06; indicating continuity or short circuits in electric apparatus or lines or components G01R 31/50)}}
M	G01R 19/15	<ul style="list-style-type: none"> • Indicating the presence of current {{(see provisionally also G01R 19/145)}}
M	G01R 19/155	<ul style="list-style-type: none"> • Indicating the presence of voltage {{(see provisionally also G01R 19/145)}}
M	G01R 19/165	<ul style="list-style-type: none"> Indicating that current or voltage is either above or below a predetermined value or within or outside a predetermined range of values {{(circuits with regenerative action, e.g. Schmitt trigger H03K 3/00; threshold switches H03K 17/00)}}
M	G01R 19/18	<ul style="list-style-type: none"> using conversion of dc into ac DC into AC, e.g. with choppers {{(DC amplifiers with modulators at input and demodulator at output H03F 3/38)}}
M	G01R 19/20	<ul style="list-style-type: none"> • using transducers {, i.e. a magnetic core transducer the saturation of which is cyclically reversed by an AC source on the secondary side {{(other DC current transducers, e.g. using the 0-flux principle, G01R 15/185; magnetic amplifiers H03F 9/00)}}
M	G01R 19/25	<ul style="list-style-type: none"> using digital measurement techniques {{(arrangements for displaying measured electric variables in digital form G01R 13/02 {Analogue/digital conversion H03M})}}
M	G01R 19/30	<ul style="list-style-type: none"> Measuring the maximum or the minimum value of current or voltage reached in a time interval (G01R 19/04 takes precedence; modifications of instruments to indicate the maximum or the minimum value reached in a time interval G01R 1/40; {using digital methods G01R 19/2506})
M	G01R 19/32	<ul style="list-style-type: none"> Compensating for temperature change {{(G01R 19/02 - G01R 19/30 take precedence } ; modifications of instruments for temperature compensation G01R 1/44)}}
U	G01R 21/00	<p>Arrangements for measuring electric power or power factor (G01R 7/12 takes precedence)</p>
M	G01R 21/08	<ul style="list-style-type: none"> by using galvanomagnetic - effect devices, e.g. Hall - effect devices {{(such devices per se H01L; {for current measurements only, see G01R 15/20})}}
M	G01R 21/127	<ul style="list-style-type: none"> by using pulse modulation (G01R 21/133 takes precedence }; digital multiplication via delta sigma modulation G06F 7/60)

M	G01R 22/00	<p>Arrangements for measuring time integral of electric power or current, e.g. by electricity meters {{(electromechanical arrangements therefor G01R 11/00; monitoring electric consumption of electrically-propelled vehicles B60L 3/00; coin freed devices G07F 15/00)}}</p> <p><u>NOTE</u></p> <p>An arrangement for measuring time integral of electric power is classified in group G01R 21/00 if the essential characteristic is the measuring of electric power.</p>
M	G01R 23/00	<p>Arrangements for measuring frequencies; Arrangements for analysing frequency spectra {{(frequency discriminators H03D; {high frequency probes G01R 1/06772})}}</p>
M	G01R 23/02	<ul style="list-style-type: none"> • Arrangements for measuring frequency, e.g. pulse repetition rate {{(using vibrating reeds G01R 9/04)}} Arrangements for measuring period of current or voltage (measuring short-time intervals G04F); <i>Arrangements for measuring period of current or voltage</i>
U	G01R 23/06	<ul style="list-style-type: none"> • • by converting frequency into an amplitude of current or voltage
M	G01R 23/09	<ul style="list-style-type: none"> • • using analogue integrators, e.g. capacitors establishing a mean value by balance of input signals and defined discharge signals or leakage (radiation-measuring instruments in which pulses generated by a radiation detector are integrated G01T 1/15)
M	G01R 23/14	<ul style="list-style-type: none"> • • by heterodyning; by beat-frequency comparison (generation of oscillations by beating unmodulated signals of different frequencies H03B 21/00)
M	G01R 23/16	<ul style="list-style-type: none"> • Spectrum analysis; Fourier analysis {{(computing with Fourier series or Walsh functions G06F 17/14, G06G 7/19; spectral data processing)}}
M	G01R 23/173	<ul style="list-style-type: none"> • • Wobblulating devices similar to swept panoramic receivers (panoramic receivers per se H03J 7/32)
M	G01R 23/20	<ul style="list-style-type: none"> • • Measurement of non-linear distortion {, e.g. harmonics or noise, (G01R 31/31708 takes precedence; noise figure G01R 29/26)}
M	G01R 25/00	<p>Arrangements for measuring phase angle between a voltage and a current; or between voltages or currents (measuring power factor G01R 21/00; measuring position of individual pulses in a pulse train G01R 29/02; phase discriminators H03D)</p>
M	G01R 25/08	<ul style="list-style-type: none"> • by counting of standard pulses (measuring time intervals G04F)
M	G01R 27/00	<p>Arrangements for measuring resistance, reactance, impedance, or electric characteristics derived therefrom {{(measuring superconductive properties G01R 33/1238)}}</p>
U	G01R 27/02	<ul style="list-style-type: none"> • Measuring real or complex resistance, reactance, impedance, or other two-pole characteristics derived therefrom, e.g. time constant (by measuring phase angle only G01R 25/00) <p><u>NOTE</u></p> <p>Groups G01R 27/02 - G01R 27/22 cover variables that directly or indirectly can be measured over two poles of a component or a Thevenin two-pole equivalent. Subgroup G01R 27/26 also covers other techniques, e.g. using electro magnetic waves or network analyzers</p>
M	G01R 27/22	<ul style="list-style-type: none"> • • Measuring resistance of fluids (measuring vessels, electrodes therefor G01N 27/07)
M	G01R 27/28	<ul style="list-style-type: none"> • Measuring attenuation, gain, phase shift or derived characteristics of electric four pole networks, i.e. two-port networks {using network analysers} Measuring transient response (in line transmission systems H04B 3/46); <i>Measuring transient response (in line transmission systems H04B 3/46)</i>

U	G01R 29/00	Arrangements for measuring or indicating electric quantities not covered by groups G01R 19/00 - G01R 27/00
M	G01R 29/02	<ul style="list-style-type: none"> Measuring characteristics of individual pulses, e.g. deviation from pulse flatness, rise time, duration <i>or duration</i> (of amplitude G01R 19/00; of repetition rate G01R 23/00; of phase difference of two cyclic pulse trains G01R 25/00; monitoring pattern of pulse trains H03K 5/19)
M	G01R 29/08	<ul style="list-style-type: none"> Measuring electromagnetic field characteristics {(measuring electrostatic fields G01R 29/12; for determining a voltage G01R 15/14; measuring magnetic fields G01R 33/00; measuring or estimating received signal strength H04B 17/318)}
M	G01R 29/20	<ul style="list-style-type: none"> Measuring number of turns; Measuring transformation ratio or coupling factor of windings {(testing or) calibrating instrument transformers G01R 35/02}
M	G01R 29/24	<ul style="list-style-type: none"> Arrangements for measuring quantities of charge (electrostatic instruments G01R 5/28; indicating presence of current G01R 19/15; electrolytic meters, calorimetric meters, for measuring time integral of electric current G01R 22/02; G01R 22/04)
M	G01R 29/26	<ul style="list-style-type: none"> Measuring noise figure; Measuring signal-to-noise ratio (Measuring jitter, i.e. phase noise, (distortion G01R 23/20; noise measuring in individual transistors G01R 31/2616, G01R 31/2626)}
U	G01R 31/00	Arrangements for testing electric properties; Arrangements for locating electric faults; Arrangements for electrical testing characterised by what is being tested not provided for elsewhere ({measuring superconductive properties G01R 33/1238;} testing or measuring semiconductors or solid state devices during manufacture {H01L 22/00}; testing line transmission systems H04B 3/46)
		<p><u>NOTE</u></p> <p>Groups G01R 31/08, G01R 31/12, G01R 31/327, G01R 31/24, G01R 31/26, G01R 31/34, G01R 31/36, G01R 31/40, G01R 31/44 take precedence over group G01R 31/50.</p>
U	G01R 31/28	<ul style="list-style-type: none"> Testing of electronic circuits, e.g. by signal tracer ({EMC, EMP or similar testing of electronic circuits G01R 31/002;} testing for short-circuits, discontinuities, leakage or incorrect line connection G01R 31/50; checking computers {or computer components} G06F 11/00; checking static stores for correct operation G11C 29/00 {; testing receivers or transmitters of transmission systems H04B 17/00})
U	G01R 31/317	<ul style="list-style-type: none"> Testing of digital circuits <p><u>WARNING</u></p> <p>The following subgroups of G01R 31/317 are not complete due to an ongoing reorganisation : G01R 31/31702, G01R 31/31708, G01R 31/31711, G01R 31/31717, G01R 31/31718, G01R 31/31728, G01R 31/31901. See also G01R 31/317 and its other subgroups</p>
U	G01R 31/3181	<ul style="list-style-type: none"> Functional testing (G01R 31/3177 takes precedence)
M	G01R 31/319	<ul style="list-style-type: none"> Tester hardware, i.e. output processing circuit {circuits (logic analyzers G01R 31/3177, Memory tester hardware G11C 29/56)}
U	G01R 33/00	Arrangements or instruments for measuring magnetic variables

- M G01R 33/02
- Measuring direction or magnitude of magnetic fields or magnetic flux ([G01R 33/20](#) takes precedence; ~~measuring direction or magnitude of the earth's field for navigation or surveying G01C~~; ~~for prospecting, for measuring the magnetic field of the earth G01V 3/00~~)
- NOTE
- Groups [G01R 33/022](#), [G01R 33/10](#) take precedence over groups [G01R 33/025](#) - [G01R 33/09](#).
- M G01R 33/025
- • Compensating stray fields (~~(compensating compasses G01C 17/38)~~ ([G01R 33/0017](#) takes precedence))
- M G01R 33/032
- • using magneto-optic devices, e.g. Faraday {; ~~or Cotton-Mouton effect (magneto-optics in general G02F 1/09)~~}
- M G01R 33/035
- • using superconductive devices ~~{(manufacture of superconducting elements H01L 39/00)}~~
- M G01R 33/038
- • using permanent magnets, e.g. balances, torsion devices ~~{(electro-dynamic magnetometers G01R 33/028)}~~
- M G01R 33/06
- • using galvano-magnetic devices, ~~e.g. Hall effect devices; using magneto-resistive devices {(manufacture of galvano-magnetic elements H01L 43/00)}~~
- M G01R 33/12
- Measuring magnetic properties of articles or specimens of solids or fluids (involving magnetic resonance [G01R 33/20](#) ~~{; using magnetic-optic devices G01R 33/032}~~)
- M G01R 33/20
- involving magnetic resonance (medical aspects [A61B 5/055](#); magnetic resonance gyrometers ~~G01C 19/00 {G01C 19/60; investigating materials using NMR G01N 24/00; prospecting or detecting using NMR G01V 3/00}~~)
- U G01R 33/24
- • for measuring direction or magnitude of magnetic fields or magnetic flux
- M G01R 33/26
- • • using optical pumping ~~{(optical pumping in general G01N 24/006)}~~
- U G01R 33/28
- • Details of apparatus provided for in groups [G01R 33/44](#) - [G01R 33/64](#)
- U G01R 33/32
- • • Excitation or detection systems, e.g. using radio frequency signals
- M G01R 33/34
- • • • Constructional details, e.g. resonators {, specially adapted to MR ~~(aerials in general H01Q)~~}
- U G01R 33/38
- • • Systems for generation, homogenisation or stabilisation of the main or gradient magnetic field
- M G01R 33/381
- • • • using electromagnets ~~(electromagnets per se H01F 7/06)~~
- M G01R 33/3815
- • • • • with superconducting coils, e.g. power supply therefor ~~(superconductive magnets H01F 6/00)~~
- M G01R 33/383
- • • • using permanent magnets ~~(permanent magnets per se H01F 7/02)~~
- M G01R 33/387
- • • • Compensation of inhomogeneities ~~(screening G01R 33/42)~~
- M G01R 33/42
- • • Screening ~~(screening in general H05K 9/00)~~
- U G01R 33/44
- • using nuclear magnetic resonance [NMR] ([G01R 33/24](#), [G01R 33/62](#) take precedence)
- U G01R 33/48
- • • NMR imaging systems
- U G01R 33/483
- • • • with selection of signals or spectra from particular regions of the volume, e.g. *in vivo* spectroscopy
- M G01R 33/485
- • • • • based on chemical shift information {~~CSI~~/[CSI](#)} or spectroscopic imaging, e.g. to acquire the spatial distributions of metabolites}
- M G01R 33/54
- • • • Signal processing systems, e.g. using pulse sequences {~~; Generation or control of pulse sequences (in general H03K)~~; [Generation or control of pulse sequences](#); Operator [Console](#)~~console~~}
- M G01R 33/56
- • • • • Image enhancement or correction, e.g. subtraction or averaging techniques {, e.g. improvement of signal-to-noise ratio and resolution ~~(image data processing in general G06T)~~}

- M G01R 33/64 . . using cyclotron resonance ([G01R 33/24](#) takes precedence ~~{Omeagatrons per se H01J 49/38}~~)
- M G01R 35/00 **Testing or calibrating of apparatus covered by the preceding groups** ~~{other groups of this subclass (G01R 31/31901 takes precedence)}~~

Project: RP0596 (G01S)

- U G01S 7/00 **Details of systems according to groups [G01S 13/00](#), [G01S 15/00](#), [G01S 17/00](#)**
- U G01S 7/02 . of systems according to group [G01S 13/00](#)
- C G01S 7/023 . . {~~interference~~*Interference* mitigation, e.g. reducing or avoiding non-intentional interference with other HF-transmitters, base station transmitters for mobile communication or other radar systems, e.g. using electro-magnetic interference [EMI] reduction techniques (~~means for anti-jamming G01S 7/36~~; auxiliary means for detecting or identifying radar signals or the like [G01S 7/021](#); *means for anti-jamming G01S 7/36*)}

WARNING

Group G01S 7/023 is impacted by reclassification into groups G01S 7/0231, G01S 7/0232, G01S 7/0233, G01S 7/0234, G01S 7/0235 and G01S 7/0236. All groups listed in this Warning should be considered in order to perform a complete search.

- N G01S 7/0231 . . . {Avoidance by polarisation multiplex}
- WARNING**
*Group [G01S 7/0231](#) is incomplete pending reclassification of documents from group [G01S 7/023](#).
 Groups [G01S 7/023](#) and [G01S 7/0231](#) should be considered in order to perform a complete search.*
- N G01S 7/0232 . . . {Avoidance by frequency multiplex}
- WARNING**
*Group [G01S 7/0232](#) is incomplete pending reclassification of documents from group [G01S 7/023](#).
 Groups [G01S 7/023](#) and [G01S 7/0232](#) should be considered in order to perform a complete search.*
- N G01S 7/0233 . . . {Avoidance by phase multiplex}
- WARNING**
*Group [G01S 7/0233](#) is incomplete pending reclassification of documents from group [G01S 7/023](#).
 Groups [G01S 7/023](#) and [G01S 7/0233](#) should be considered in order to perform a complete search.*
- N G01S 7/0234 . . . {Avoidance by code multiplex}
- WARNING**
*Group [G01S 7/0234](#) is incomplete pending reclassification of documents from group [G01S 7/023](#).
 Groups [G01S 7/023](#) and [G01S 7/0234](#) should be considered in order to perform a complete search.*
- N G01S 7/0235 . . . {Avoidance by time multiplex}
- WARNING**
Group [G01S 7/0235](#) is incomplete pending reclassification of documents from group [G01S 7/023](#).

Groups [G01S 7/023](#) and [G01S 7/0235](#) should be considered in order to perform a complete search.

- N G01S 7/0236 . . . {Avoidance by space multiplex}
WARNING
Group [G01S 7/0236](#) is incomplete pending reclassification of documents from group [G01S 7/023](#).
Groups [G01S 7/023](#) and [G01S 7/0236](#) should be considered in order to perform a complete search.
- D G01S 2007/027 . . {Housing details, e.g. form, type, material, ruggedness}
<administratively transferred to [G01S 7/027](#)>
- N G01S 7/027 . . {Constructional details of housings, e.g. form, type, material or ruggedness}
- D G01S 2007/028 . . . {involving miniaturizing aspects, e.g. surface mounted device [SMD] packaging or housing}
<administratively transferred to [G01S 7/028](#)>
- N G01S 7/028 . . . {Miniaturisation, e.g. surface mounted device [SMD] packaging or housings}
- U G01S 7/28 . . Details of pulse systems
- U G01S 7/285 . . . Receivers
- U G01S 7/288 Coherent receivers
- D G01S 2007/2883 {using FFT processing}
<administratively transferred to [G01S 7/2883](#)>
- N G01S 7/2883 {using FFT processing}
- D G01S 2007/2886 {using I/Q processing}
<administratively transferred to [G01S 7/2886](#)>
- N G01S 7/2886 {using I/Q processing}
- U G01S 7/35 . . Details of non-pulse systems
- U G01S 7/352 . . . {Receivers}
- D G01S 2007/356 {involving particularities of FFT processing}
<administratively transferred to [G01S 7/356](#)>
- N G01S 7/356 {involving particularities of FFT processing}
- D G01S 2007/358 {using I/Q processing}
<administratively transferred to [G01S 7/358](#)>
- N G01S 7/358 {using I/Q processing}
- U G01S 7/40 . . Means for monitoring or calibrating
- U G01S 7/4004 . . . {of parts of a radar system}
- U G01S 7/4008 {of transmitters}
- D G01S 2007/4013 {involving adjustment of the transmitted power}
<administratively transferred to [G01S 7/4013](#)>
- N G01S 7/4013 {involving adjustment of the transmitted power}
- U G01S 7/4026 {Antenna boresight}
- D G01S 2007/403 {in azimuth, i.e. in the horizontal plane}
<administratively transferred to [G01S 7/403](#)>
- N G01S 7/403 {in azimuth, i.e. in the horizontal plane}
- D G01S 2007/4034 {in elevation, i.e. in the vertical plane}
<administratively transferred to [G01S 7/4034](#)>

- N G01S 7/4034 {*in elevation, i.e. in the vertical plane*}
- D G01S 2007/4039 {~~of sensor or antenna obstruction, e.g. dirt or ice-coating~~
<administratively transferred to [G01S 7/4039](#)>
- N G01S 7/4039 {*of sensor or antenna obstruction, e.g. dirt or ice-coating*}
- D G01S 2007/4043 {~~including means to prevent or remove the obstruction~~
<administratively transferred to [G01S 7/4043](#)>
- N G01S 7/4043 {*including means to prevent or remove the obstruction*}
- D G01S 2007/4047 {~~heated dielectric lens, e.g. by heated wire~~
<administratively transferred to [G01S 7/4047](#)>
- N G01S 7/4047 {*Heated dielectric lens, e.g. by heated wire*}
- U G01S 7/4052 . . . {*by simulation of echoes*}
- D G01S 2007/406 {~~using internally generated reference signals, e.g. via delay line, via RF or IF signal injection or via integrated reference reflector or transponder~~
<administratively transferred to [G01S 7/406](#)>
- N G01S 7/406 {*using internally generated reference signals, e.g. via delay line, via RF or IF signal injection or via integrated reference reflector or transponder*}
- D G01S 2007/4065 {~~involving a delay line~~
<administratively transferred to [G01S 7/4065](#)>
- N G01S 7/4065 {*involving a delay line*}
- D G01S 2007/4069 {~~involving a RF signal injection~~
<administratively transferred to [G01S 7/4069](#)>
- N G01S 7/4069 {*involving a RF signal injection*}
- D G01S 2007/4073 {~~involving an IF signal injection~~
<administratively transferred to [G01S 7/4073](#)>
- N G01S 7/4073 {*involving an IF signal injection*}
- D G01S 2007/4078 {~~involving an integrated reference reflector or reference transponder~~
<administratively transferred to [G01S 7/4078](#)>
- N G01S 7/4078 {*involving an integrated reference reflector or reference transponder*}
- D G01S 2007/4082 {~~using externally generated reference signals, e.g. via remote reflector or transponder~~
<administratively transferred to [G01S 7/4082](#)>
- N G01S 7/4082 {*using externally generated reference signals, e.g. via remote reflector or transponder*}
- D G01S 2007/4086 {~~in a calibrating environment, e.g. anechoic chamber~~
<administratively transferred to [G01S 7/4086](#)>
- N G01S 7/4086 {*in a calibrating environment, e.g. anechoic chamber*}
- D G01S 2007/4091 {~~during normal radar operation~~
<administratively transferred to [G01S 7/4091](#)>
- N G01S 7/4091 {*during normal radar operation*}
- D G01S 2007/4095 {~~the external reference signals being modulated, e.g. rotating dihedral reflector or modulating transponder for simulation of a Doppler echo etc.~~
<administratively transferred to [G01S 7/4095](#)>
- N G01S 7/4095 {*the external reference signals being modulated, e.g. rotating a dihedral reflector or modulating a transponder for simulation of a Doppler echo*}

Project: RP0597 (G02B)

- U G02B 6/00 Light guides**
- U G02B 6/24 · Coupling light guides (for electric waveguides [H01P 1/00](#))
 - U G02B 6/36 · · Mechanical coupling means ([G02B 6/255](#), [G02B 6/42](#) take precedence)
 - U G02B 6/38 · · · having fibre to fibre mating means
 - U G02B 6/3807 · · · · {Dismountable connectors, i.e. comprising plugs}
 - C G02B 6/3887 · · · · · {Anchoring optical cables to connector housings, e.g. strain relief features, ~~bending protection~~}

WARNING

*Group G02B 6/3887 is impacted by reclassification into groups G02B 6/38875 and G02B 6/3888.
Groups G02B 6/3887, G02B 6/38875 and G02B 6/3888 should be considered in order to perform a complete search.*

- N G02B 6/38875 · · · · · {Protection from bending or twisting}

WARNING

*Group G02B 6/38875 is incomplete pending reclassification of documents from groups G02B 6/3887 and G02B 6/3889.
Groups G02B 6/3887, G02B 6/3889 and G02B 6/38875 should be considered in order to perform a complete search.*

- N G02B 6/3888 · · · · · {Protection from over-extension or over-compression}

WARNING

*Group G02B 6/3888 is incomplete pending reclassification of documents from groups G02B 6/3887 and G02B 6/3889.
Groups G02B 6/3887, G02B 6/3889 and G02B 6/3888 should be considered in order to perform a complete search.*

- C G02B 6/3889 · · · · · {~~encapsulating the tensile strength members in a bonding agent~~*using encapsulation for protection*, e.g. adhesive, molding or casting resin}

WARNING

*Group G02B 6/3889 is impacted by reclassification into groups G02B 6/38875 and G02B 6/3888.
Groups G02B 6/3889, G02B 6/38875 and G02B 6/3888 should be considered in order to perform a complete search.*

Project: RP0396 (G06F)

- U G06F 3/00 Input arrangements for transferring data to be processed into a form capable of being handled by the computer; Output arrangements for transferring data from processing unit to output unit, e.g. interface arrangements**

- T G06F 3/06 · Digital input from or digital output to record carriers {, e.g. RAID, emulated record carriers, networked record carriers}

WARNING

Groups G06F 3/06, G06F 3/0601, G06F 3/0602, G06F 3/0604, G06F 3/0605, G06F 3/0607, G06F 3/0608, G06F 3/061, G06F 3/0611, G06F 3/0613, G06F 3/0614, G06F 3/0616, G06F 3/0617, G06F 3/0619, G06F 3/062, G06F 3/0622, G06F 3/0623, G06F 3/0625, G06F 3/0626, G06F 3/0628, G06F 3/0629, G06F 3/0631, G06F 3/0632, G06F 3/0634, G06F 3/0635, G06F 3/0637, G06F 3/0638, G06F 3/064, G06F 3/0641, G06F 3/0643, G06F 3/0644, G06F 3/0646, G06F 3/0647, G06F 3/0649, G06F 3/065, G06F 3/0652, G06F 3/0653, G06F 3/0655, G06F 3/0656, G06F 3/0658,

G06F 3/0659, G06F 3/0661, G06F 3/0662, G06F 3/0664, G06F 3/0665, G06F 3/0667, G06F 3/0668, G06F 3/067, G06F 3/0671, G06F 3/0673, G06F 3/0674, G06F 3/0676, G06F 3/0677, G06F 3/0679, G06F 3/068, G06F 3/0682, G06F 3/0683, G06F 3/0685, G06F 3/0686, G06F 3/0688, G06F 3/0689 and G06F 3/08 are incomplete pending reclassification of documents from group G06F 2003/0697.

All groups listed in this Warning should be considered in order to perform a complete search.

T G06F 3/0601

- {~~Dedicated interfaces to~~ Interfaces specially adapted for storage systems}

NOTE

{In this subgroup the following classification rules must be observed:
For a complete classification in the field of G06F 3/0601 documents should receive classification symbols for "invention information" as follows:

- at least one symbol in G06F 3/0602 - G06F 3/0626 for the technical effect achieved and
- at least one symbol in G06F 3/0628 - G06F 3/0667 for the technique used and
- at least one symbol in G06F 3/0668 - G06F 3/0689 for the infrastructure involved.

The classification of "additional information" is optional. CPC symbols in the range G06F 2206/1004 - G06F 2206/1014 should be used for classifying "additional information".

}

D G06F 2003/0691

- {buffering arrangements}

<administratively transferred to G06F 3/0656>

D G06F 2003/0692

- {digital I/O from or to direct access storage devices, e.g. magnetic, optical, magneto-optical disc}

<administratively transferred to G06F 3/0673>

D G06F 2003/0694

- {emulating arrangements, e.g. RAM-disc}

<administratively transferred to G06F 3/0664>

D G06F 2003/0695

- {formatting arrangements}

<administratively transferred to G06F 3/0638>

F G06F 2003/0697
(Frozen)

- {device management, e.g. handlers, drivers, I/O schedulers}

WARNING

Group G06F 2003/0697 is no longer used for the classification of documents as of May 1, 2021.

The content of this group is being reclassified into groups G06F 3/06, G06F 3/0601, G06F 3/0602, G06F 3/0604, G06F 3/0605, G06F 3/0607, G06F 3/0608, G06F 3/061, G06F 3/0611, G06F 3/0613, G06F 3/0614, G06F 3/0616, G06F 3/0617, G06F 3/0619, G06F 3/062, G06F 3/0622, G06F 3/0623, G06F 3/0625, G06F 3/0626, G06F 3/0628, G06F 3/0629, G06F 3/0631, G06F 3/0632, G06F 3/0634, G06F 3/0635, G06F 3/0637, G06F 3/0638, G06F 3/064, G06F 3/0641, G06F 3/0643, G06F 3/0644, G06F 3/0646, G06F 3/0647, G06F 3/0649, G06F 3/065, G06F 3/0652, G06F 3/0653, G06F 3/0655, G06F 3/0656, G06F 3/0658, G06F 3/0659, G06F 3/0661, G06F 3/0662, G06F 3/0664, G06F 3/0665, G06F 3/0667, G06F 3/0668, G06F 3/067, G06F 3/0671, G06F 3/0673, G06F 3/0674, G06F 3/0676, G06F 3/0677, G06F 3/0679, G06F 3/068, G06F 3/0682, G06F 3/0683, G06F 3/0685, G06F 3/0686, G06F 3/0688, G06F 3/0689 and G06F 3/08.

All groups listed in this Warning should be considered in order to perform a complete search.

- D G06F 2003/0698 . . {digital I/O from or to serial access storage devices, e.g. magnetic tape}
 <administratively transferred to [G06F 3/0682](#)>

Project: RP0357 (G08B)

- U G08B 7/00 **Signalling systems according to more than one of groups [G08B 3/00](#) - [G08B 6/00](#); Personal calling systems according to more than one of groups [G08B 3/00](#) - [G08B 6/00](#)**
- U G08B 7/06 . using electric transmission {, e.g. involving audible and visible signalling through the use of sound and light sources}
- G08B 7/062 . . {indicating emergency exits ~~{signs, boards or panels illuminated from behind, indicating exit way or orientation G09F 2013/0459}~~}

Project: RP0357 (G09F)

- U G09F 3/00 **Labels, tag tickets, or similar identification or indication means (medals or badges [A44C 3/00](#); making labels [B31D 1/02](#); sheets temporarily attached together [B42F](#); labelling [B65C](#); labels on record carriers [G11B 23/38](#), [G11B 23/40](#)); Seals; Postage or like stamps**
- U G09F 3/02 . Forms or constructions (layered products [B32B](#))
- C G09F 3/0288 . . {Labels or tickets consisting of more than one part, e.g. with address of sender or other reference on separate section to main label; Multi-copy labels}
- WARNING**
*Group [G09F 3/0288](#) is impacted by reclassification into groups [G09F 3/02883](#) and [G09F 3/02886](#).
 Groups [G09F 3/0288](#), [G09F 3/02883](#) and [G09F 3/02886](#) should be considered in order to perform a complete search.*
- N G09F 3/02883 . . . {Folded}
WARNING
*Group [G09F 3/02883](#) is incomplete pending reclassification of documents from group [G09F 3/0288](#).
 Groups [G09F 3/0288](#) and [G09F 3/02883](#) should be considered in order to perform a complete search.*
- N G09F 3/02886 . . . {Reinforced}
WARNING
*Group [G09F 3/02886](#) is incomplete pending reclassification of documents from group [G09F 3/0288](#).
 Groups [G09F 3/0288](#) and [G09F 3/02886](#) should be considered in order to perform a complete search.*
- M G09F 3/0289 . . . {Pull- or fold-out labels}
- U G09F 7/00 **Signs, name or number plates, letters, numerals, or symbols (vehicle registration number plates [B60R 13/10](#)); Panels or boards (show-cards [G09F 1/00](#); indicating arrangements for variable information [G09F 9/00](#), [G09F 11/00](#); illuminated signs [G09F 13/00](#); boards for notices or posters [G09F 15/00](#))**
- U G09F 7/16 . Letters, numerals, or other symbols adapted for permanent fixing to a support
- M G09F 7/165 . . {~~The letters, numerals, or other symbols being~~ obtained by a treatment of the support}
- U G09F 7/18 . Means for attaching signs, plates, panels, or boards to a supporting structure

- C G09F 7/20
- for adjustably mounting
- WARNING**
Group [G09F 7/20](#) is impacted by reclassification into group [G09F 7/205](#). Groups [G09F 7/20](#) and [G09F 7/205](#) should be considered in order to perform a complete search.
- N G09F 7/205
- {for adjustably raising or lowering suspended signs}
- WARNING**
Group [G09F 7/205](#) is incomplete pending reclassification of documents from group [G09F 7/20](#). Groups [G09F 7/20](#) and [G09F 7/205](#) should be considered in order to perform a complete search.
- M G09F 9/00
- Indicating arrangements for variable information in which the information is built-up on a support by selection or combination of individual elements (in which the variable information is permanently attached to a movable support [G09F 11/00](#); abacus [G06C 1/00](#); slide-rules [G06G 1/00](#))**
- NOTE**
Group [G09F 9/302](#) takes precedence over groups [G09F 9/305](#) - [G09F 9/37](#). {This Note corresponds to IPC Note (1) relating to [G09F 9/302](#) - [G09F 9/37](#).}
- U G09F 9/30
- in which the desired character or characters are formed by combining individual elements (panels comprising a number of electrodes in a single cell controlling light arriving from an independent light source, e.g. electro-optical or magneto-optical cell, [G02F 1/00](#))
- C G09F 9/33
- being semiconductor devices, e.g. diodes ~~([G09F 9/302](#) takes precedence; semiconductor integrated circuits comprising components adapted for emission of light per se [H01L 27/15](#))~~
- WARNING**
Group [G09F 9/33](#) is impacted by reclassification into group [G09F 9/335](#). Groups [G09F 9/33](#) and [G09F 9/335](#) should be considered in order to perform a complete search.
- N G09F 9/335
- {being organic light emitting diodes [OLED]}
- WARNING**
Group [G09F 9/335](#) is incomplete pending reclassification of documents from group [G09F 9/33](#). Groups [G09F 9/33](#) and [G09F 9/335](#) should be considered in order to perform a complete search.
- U G09F 13/00
- Illuminated signs; Luminous advertising ([G09F 9/00](#), [G09F 11/00](#) take precedence; control of displays in general using static means to present variable information [G09G](#))**
- U G09F 13/04
- Signs, boards or panels, illuminated from behind the insignia
- M G09F 13/0413
- {Frames or casing structures therefor ~~(transparency frames [G03B 21/64](#))~~}
- D G09F 2013/0418
- {Constructional details}
- <administratively transferred to [G09F 13/0418](#) INV>
- Q G09F 13/0418
- {Constructional details}
- WARNING**
Group [G09F 13/0418](#) is impacted by reclassification into groups [G09F 13/0456](#) and [G09F 13/0458](#).

Groups [G09F 13/0418](#), [G09F 13/0456](#) and [G09F 13/0458](#) should be considered in order to perform a complete search.

- D G09F 2013/0422 . . . {characterised by the presence of reflectors}
<administratively transferred to [G09F 13/0422](#) INV>
- N G09F 13/0422 . . . {Reflectors}
- D G09F 2013/0427 . . . {in the form of buttons}
<administratively transferred to [G09F 13/0427](#) INV>
- N G09F 13/0427 . . . {in the form of buttons}
- D G09F 2013/0431 . . . {connected to a pole}
<administratively transferred to [G09F 13/0431](#) INV>
- N G09F 13/0431 . . . {Signs, boards or panels connected to a pole}
- D G09F 2013/0436 . . . {attached to ceilings}
<administratively transferred to [G09F 13/0436](#) INV>
- N G09F 13/0436 . . . {Signs, boards or panels attached to ceilings}
- D G09F 2013/044 . . . {on vehicles}
<administratively transferred to [G09F 13/044](#) INV>
- N G09F 13/044 . . . {Signs, boards or panels mounted on vehicles}
- D G09F 2013/0445 . . . {Frame details}
<administratively transferred to [G09F 13/0445](#) INV>
- Q G09F 13/0445 . . . {Frames}

WARNING

Group [G09F 13/0445](#) is impacted by reclassification into groups [G09F 13/0446](#), [G09F 13/0447](#) and [G09F 13/0448](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N G09F 13/0446 {collapsible}

WARNING

Group [G09F 13/0446](#) is incomplete pending reclassification of documents from group [G09F 13/0445](#).

Groups [G09F 13/0445](#) and [G09F 13/0446](#) should be considered in order to perform a complete search.

- N G09F 13/0447 {compartmented}

WARNING

Group [G09F 13/0447](#) is incomplete pending reclassification of documents from group [G09F 13/0445](#).

Groups [G09F 13/0445](#) and [G09F 13/0447](#) should be considered in order to perform a complete search.

- N G09F 13/0448 {double face}

WARNING

Group [G09F 13/0448](#) is incomplete pending reclassification of documents from group [G09F 13/0445](#).

Groups [G09F 13/0445](#) and [G09F 13/0448](#) should be considered in order to perform a complete search.

- D G09F 2013/045 . . . {Presence of a door}
<administratively transferred to [G09F 13/045](#) INV>

- N G09F 13/045 . . . {Signs, boards or panels specially adapted for doors}
- D G09F 2013/0454 . . . {With slidable panels or parts}
<administratively transferred to [G09F 13/0454](#) INV>
- N G09F 13/0454 . . . {Slidable panels or parts}
- N G09F 13/0456 . . . {Detachable casings}
- WARNING
Group [G09F 13/0456](#) is incomplete pending reclassification of documents from group [G09F 13/0418](#).
Groups [G09F 13/0418](#) and [G09F 13/0456](#) should be considered in order to perform a complete search.
- N G09F 13/0458 . . . {Interchangeable panels}
- WARNING
Group [G09F 13/0458](#) is incomplete pending reclassification of documents from group [G09F 13/0418](#).
Groups [G09F 13/0418](#) and [G09F 13/0458](#) should be considered in order to perform a complete search.
- D G09F 2013/0459 . . . {Indicating exit way or orientation}
<administratively transferred to [G09F 2013/05](#) ADD>
- D G09F 2013/0463 . . . {Portable}
<administratively transferred to [G09F 13/0463](#) INV>
- N G09F 13/0463 . . . {Portable signs, boards or panels}
- D G09F 2013/0468 . . . {With tensioned or flexible display surface}
<administratively transferred to [G09F 13/0468](#) INV>
- N G09F 13/0468 . . . {Signs, boards or panels with tensioned or flexible display surface}
- D G09F 2013/0472 . . . {Traffic signs}
<administratively transferred to [G09F 13/0472](#) INV>
- N G09F 13/0472 . . . {Traffic signs}
- D G09F 2013/0477 . . . {on containers}
<administratively transferred to [G09F 13/0477](#) INV>
- N G09F 13/0477 . . . {Signs, boards or panels mounted on containers}
- D G09F 2013/0481 . . . {Curved shape}
<administratively transferred to [G09F 13/0481](#) INV>
- N G09F 13/0481 . . . {Signs, boards or panels having a curved shape}
- D G09F 2013/0486 . . . {With neon tubes}
<administratively transferred to [G09F 13/0486](#) INV>
- N G09F 13/0486 . . . {Neon tubes}
- D G09F 2013/049 . . . {Edge illuminated}
<administratively transferred to [G09F 13/049](#) INV>
- N G09F 13/049 . . . {Edge illuminated signs, boards or panels}
- D G09F 2013/0495 . . . {In the ground}
<administratively transferred to [G09F 13/0495](#) INV>
- N G09F 13/0495 . . . {Signs, boards or panels attached to the ground}
- N G09F 2013/05 . . . {indicating exit way or orientation}

- C G09F 19/00** ~~Miscellaneous advertising~~ **Advertising** or display means not **otherwise** provided for ~~elsewhere~~
- WARNING
*Group G09F 19/00 is impacted by reclassification into groups G09F 19/002, G09F 19/005 and G09F 19/008.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- N G09F 19/002** • {Advertising means including image processing to create a special effect when viewed from a camera}
- WARNING
*Group G09F 19/002 is incomplete pending reclassification of documents from group G09F 19/00.
 Groups G09F 19/00 and G09F 19/002 should be considered in order to perform a complete search.*
- N G09F 19/005** • {Scented advertising means}
- WARNING
*Group G09F 19/005 is incomplete pending reclassification of documents from group G09F 19/00.
 Groups G09F 19/00 and G09F 19/005 should be considered in order to perform a complete search.*
- N G09F 19/008** • {Inflatable advertising means}
- WARNING
*Group G09F 19/008 is incomplete pending reclassification of documents from group G09F 19/00.
 Groups G09F 19/00 and G09F 19/008 should be considered in order to perform a complete search.*
- C G09F 19/12** • using special optical effects (~~designs or pictures characterised by special light effects B44F 1/00, e.g. changing pictures B44F 1/10; projecting decorations in stage lighting F21W 2111/06~~)
- WARNING
*Group G09F 19/12 is impacted by reclassification into group G09F 19/125.
 Groups G09F 19/12 and G09F 19/125 should be considered in order to perform a complete search.*
- N G09F 19/125** • • {Stereoscopic displays; 3D displays}
- WARNING
*Group G09F 19/125 is incomplete pending reclassification of documents from group G09F 19/12.
 Groups G09F 19/12 and G09F 19/125 should be considered in order to perform a complete search.*
- C G09F 19/22** • Advertising or display means on roads, walls, or similar surfaces, e.g. illuminated (~~illuminated signs in general G09F 13/00~~)
- WARNING
*Group G09F 19/22 is impacted by reclassification into group G09F 19/227.
 Groups G09F 19/22 and G09F 19/227 should be considered in order to perform a complete search.*

- C G09F 19/226
- {~~Building external wall displays~~ *External wall display means*; Facade advertisement *advertising means*}
- WARNING**
Group G09F 19/226 is impacted by reclassification into group G09F 19/227. Groups G09F 19/226 and G09F 19/227 should be considered in order to perform a complete search.
- N G09F 19/227
- {on windows}
- WARNING**
Group G09F 19/227 is incomplete pending reclassification of documents from groups G09F 19/22 and G09F 19/226. Groups G09F 19/22, G09F 19/226 and G09F 19/227 should be considered in order to perform a complete search.
- U G09F 21/00 **Mobile visual advertising (combined visual and audible advertising G09F 27/00)**
- U G09F 21/04
- by land vehicles
- WARNING**
Group G09F 21/04 is impacted by reclassification into groups G09F 21/04, G09F 21/042 and G09F 21/049. Groups G09F 21/04, G09F 21/042 and G09F 21/049 should be considered in order to perform a complete search.
- C G09F 21/048
- {Advertisement panels on sides, front or back of vehicles}
- WARNING**
Group G09F 21/048 is impacted by reclassification into group G09F 21/0485. Groups G09F 21/048 and G09F 21/0485 should be considered in order to perform a complete search.
- N G09F 21/0485
- • {Advertising means on windshields}
- WARNING**
Group G09F 21/0485 is incomplete pending reclassification of documents from group G09F 21/048. Groups G09F 21/048 and G09F 21/0485 should be considered in order to perform a complete search.
- C G09F 23/00 **Advertising on or in specific articles, e.g. ashtrays, letter-boxes (on or in vehicles G09F 21/00; containers, packaging elements, or packages, with auxiliary means or provisions for displaying articles B65D)**
- WARNING**
Group G09F 23/00 is impacted by reclassification into groups G09F 23/007, G09F 23/0081, G09F 23/0093, G09F 23/0095, G09F 23/0097 and G09F 23/0098. All groups listed in this Warning should be considered in order to perform a complete search.
- U G09F 23/0066
- {on sports articles, e.g. golf clubs}
- N G09F 23/007
- {on buttons}
- WARNING**
Group G09F 23/007 is incomplete pending reclassification of documents from group G09F 23/00. Groups G09F 23/00 and G09F 23/007 should be considered in order to perform a complete search.

- D G09F 23/0075
- {on-tooth-brushes}
- <administratively transferred to [G09F 23/0082](#)>
- N G09F 23/0081
- {on sanitary articles, e.g. on cakes of soap}
- WARNING**
 Group [G09F 23/0081](#) is incomplete pending reclassification of documents from group [G09F 23/00](#).
 Groups [G09F 23/00](#) and [G09F 23/0081](#) should be considered in order to perform a complete search.
- N G09F 23/0082
- • {on tooth brushes}
- U G09F 23/0083
- {on petrol dispensers}
- U G09F 23/0091
- {on soda or beer cans}
- N G09F 23/0093
- {on phone-carried indicia}
- WARNING**
 Groups [G09F 23/0093](#), [G09F 23/0095](#), [G09F 23/0097](#) and [G09F 23/0098](#) are incomplete pending reclassification of documents from group [G09F 23/00](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- N G09F 23/0095
- • {dial-associated}
- N G09F 23/0097
- • {mouthpiece-associated}
- N G09F 23/0098
- • {upright phone standard-associated}
- U G09F 23/02
- the advertising matter being displayed by the operation of the article
- M G09F 23/10
- **Advertisement** on paper articles, e.g. booklets, newspapers
- C G09F 27/00**
- Combined visual and audible advertising or displaying, e.g. for public address**
- WARNING**
 Group [G09F 27/00](#) is impacted by reclassification into group [G09F 27/009](#).
 Groups [G09F 27/00](#) and [G09F 27/009](#) should be considered in order to perform a complete search.
- M G09F 27/008
- {Sun shades, shades, hoods or **louver/louvres** on electronic displays to **minimize/minimise** the effect of direct sun light on the display (~~rigidly arranged sunshade roofs with coherent surface E04F 10/005~~)}
- N G09F 27/009
- {Retrofitted static panels to make them dynamic}
- WARNING**
 Group [G09F 27/009](#) is incomplete pending reclassification of documents from group [G09F 27/00](#).
 Groups [G09F 27/00](#) and [G09F 27/009](#) should be considered in order to perform a complete search.

Project: RP0320 (G11B)**M G11B**

INFORMATION STORAGE BASED ON RELATIVE MOVEMENT BETWEEN RECORD CARRIER AND TRANSDUCER (recording measured values in a way that does not require playback through a transducer [G01D 9/00](#); recording or playback apparatus using mechanically marked tape, e.g. punched paper tape, or using unit records, e.g. punched or magnetically marked cards [G06K](#); transferring data from one type of record carrier to another [G06K 1/18](#); circuits for coupling output of reproducer to radio receiver [H04B 1/20](#); gramophone pick-ups or like acoustic electromechanical transducers or circuits therefor [H04R](#))

NOTES

1. This subclass covers :

- recording or playback of information by relative movement between a record track and a transducer, the transducer directly producing, or being directly actuated by, modulation in the track being recorded or played-back, and the extent of modulation corresponding to the signal being recorded or played-back;
- apparatus and machines for recording or playback, and parts thereof such as heads;
- record carriers for use with such apparatus and machines;
- associated working of other apparatus with such apparatus and machines;
- {relative positioning or movement of transducers and record carriers before, during or after transducing operation, e.g. for accessing record carriers or parts thereof, or for track change, selection or acquisition or for track following or for accessing parts of tracks;}
- {driving or moving of heads or record carriers or both heads and record carriers for increasing, maintaining or decreasing the relative speed before, during or after transducing operation}

2. In this subclass, the following terms or expressions are used with the meanings indicated :

- "head" includes any means for converting sinusoidal or non-sinusoidal electric wave-forms into variations of the physical condition of at least the adjacent surface of the record carrier, or vice versa;
- "record carrier" means a body, such as a cylinder, disc, card, tape, or wire, capable of permanently holding information, which can be read-off by a sensing element movable relatively to the record carrier.

3. Documents concerning relative positioning or movement of transducers and record carriers are classified in groups [G11B 3/00](#) - [G11B 7/00](#) and [G11B 21/00](#) when only the transducer is controlled and in groups [G11B 15/00](#), [G11B 17/00](#) and [G11B 19/00](#) when only the record carrier is controlled. When both record carrier and head are controlled, the documents are classified in [G11B 15/1808](#), [G11B 15/1816](#), [G11B 19/00](#) and [G11B 27/002](#).

When a plurality of record carriers are controlled, the documents are classified in [G11B 15/68](#), [G11B 17/08](#), [G11B 17/22](#) and [G11B 27/002](#).

4. By "access" is meant an operation including a relative movement for positioning between record carrier and head before, during or after transducing; this operation including "seek", "select", "change", "acquire" and "follow" functions for at least a part of a track on at least one record carrier. By "programmed access" is meant a sequence of access operations the result of the sequence being to acquire a wanted sequence of parts of tracks or a wanted sequence of tracks. Relative movement between head and record carrier also covers the movement of a coupling beam such as a light beam between the head and a stationary record carrier.

5. "Movement of the head" also covers any virtual movement or any physical movement such as obtained by switching between successive transducing parts of the head or by moving the transducing zone of the head, i.e. by "scanning". If different transducing parts of the head are switchable, the number of transducing

parts should be much smaller than the number of individual storage areas of the record carrier.

6. Attention is drawn to the notes of subclass [G11C](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

<i>G11B 5/673</i>	<i>covered by</i>	<i>G11B 5/66 and G11B 5/672 - G11B 5/678</i>
<i>G11B 5/738</i>	<i>covered by</i>	<i>G11B 5/73, G11B 5/733, G11B 5/7334 and G11B 5/736 - G11B 5/7377</i>
<i>G11B 7/30</i>	<i>covered by</i>	<i>G11B 7/00</i>

~~1.~~ **2.** In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U G11B 5/00

Recording by magnetisation or demagnetisation of a record carrier; Reproducing by magnetic means; Record carriers therefor ([G11B 11/00](#) {and [G11B 13/00](#)} take precedence)

NOTE

Subgroups [G11B 5/02](#) - [G11B 5/86](#) take precedence over subgroups [G11B 5/004](#) - [G11B 5/016](#)

M G11B 5/62

- Record carriers characterised by the selection of the material (~~selection of magnetic materials in general H01F 1/00; thin magnetic films H01F 10/00~~)

NOTE

This group does not cover compositions, materials or processes, per se, which are covered by the relevant subclasses of section [B](#) or [C](#).

C G11B 5/64

- comprising only the magnetic material without bonding agent

WARNING

Group [G11B 5/64](#) is impacted by reclassification into groups [G11B 5/657](#) - [G11B 5/658](#) and [G11B 5/672](#) - [G11B 5/678](#). All groups listed in this Warning should be considered in order to perform a complete search.

D G11B 5/645

- {characterised by the film material}
- <administratively transferred to [G11B 5/65](#)>

D G11B 5/647

- {containing Fe or Ni ([G11B 5/656](#) takes precedence)}
- <administratively transferred to [G11B 5/653](#)>

C G11B 5/65

- characterised by its composition ([G11B 5/66](#) takes precedence)

WARNING

Group [G11B 5/65](#) is impacted by reclassification into groups [G11B 5/657](#) - [G11B 5/658](#). All groups listed in this Warning should be considered in order to perform a complete search.

C G11B 5/653

- {containing Fe or Ni (~~[G11B 5/656](#) takes precedence~~ containing Co [G11B 5/656](#); containing inorganic, non-oxide compounds of Si, N, P, B, H or C [G11B 5/657](#); containing oxygen [G11B 5/658](#))}

WARNING

Group [G11B 5/653](#) is impacted by reclassification into groups [G11B 5/657](#) - [G11B 5/658](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- C G11B 5/656 . . . {containing Co *(containing inorganic, non-oxide compounds of Si, N, P, B, H or C G11B 5/657; containing oxygen G11B 5/658)*}

WARNING

Group G11B 5/656 is impacted by reclassification into groups G11B 5/657 - G11B 5/658.

All groups listed in this Warning should be considered in order to perform a complete search.

- N G11B 5/657 . . . {containing inorganic, non-oxide compound of Si, N, P, B, H or C, e.g. in metal alloy or compound (containing oxygen [G11B 5/658](#))}

WARNING

Group [G11B 5/657](#) is incomplete pending reclassification of documents from groups [G11B 5/64](#) and [G11B 5/65](#) - [G11B 5/656](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N G11B 5/658 . . . {containing oxygen, e.g. molecular oxygen or magnetic oxide}

WARNING

Group [G11B 5/658](#) is incomplete pending reclassification of documents from groups [G11B 5/64](#) and [G11B 5/65](#) - [G11B 5/656](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- C G11B 5/66 . . . *the record carriers* consisting of several layers

WARNING

Group G11B 5/66 is impacted by reclassification into groups G11B 5/672 - G11B 5/678.

All groups listed in this Warning should be considered in order to perform a complete search.

- C G11B 5/667 . . . including a soft magnetic layer

WARNING

Group G11B 5/667 is impacted by reclassification into groups G11B 5/672 - G11B 5/678.

All groups listed in this Warning should be considered in order to perform a complete search.

- N G11B 5/672 . . . {having different compositions in a plurality of magnetic layers, e.g. layer compositions having differing elemental components or differing proportions of elements}

WARNING

Group [G11B 5/672](#) is incomplete pending reclassification of documents from groups [G11B 5/64](#) and [G11B 5/66](#) - [G11B 5/667](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N G11B 5/674 . . . {having differing macroscopic or microscopic structures, e.g. differing crystalline lattices, varying atomic structures or differing roughnesses}

WARNING

Group [G11B 5/674](#) is incomplete pending reclassification of documents from groups [G11B 5/64](#) and [G11B 5/66](#) - [G11B 5/667](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N G11B 5/676

- • • {having magnetic layers separated by a nonmagnetic layer, e.g. antiferromagnetic layer, Cu layer or coupling layer}

WARNING

Group [G11B 5/676](#) is incomplete pending reclassification of documents from groups [G11B 5/64](#) and [G11B 5/66](#) - [G11B 5/667](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N G11B 5/678

- • • • {having three or more magnetic layers}

WARNING

Group [G11B 5/678](#) is incomplete pending reclassification of documents from groups [G11B 5/64](#) and [G11B 5/66](#) - [G11B 5/667](#).

All groups listed in this Warning should be considered in order to perform a complete search.

Project: RP0553 (H01)

M H01

BASIC ELECTRIC ELEMENTS

NOTE

1. Processes involving only a single technical art, e.g. drying, coating, for which provision exists elsewhere are classified in the relevant class for that art.

2. Attention is drawn to the Notes following the titles of class [B81](#) and subclass [B81B](#) relating to "microstructural devices" and "microstructural systems".

Project: RP0553 (H01H)

M H01H

ELECTRIC SWITCHES; RELAYS; SELECTORS; EMERGENCY PROTECTIVE DEVICES (contact cables [H01B 7/10](#); ~~overvoltage protection resistors; resistive arresters H01C 7/12, H01C 8/04~~; electrolytic self-interrupters [H01G 9/18](#); ~~switching devices of the waveguide type H01P~~; ~~devices for interrupted current collection H01R 39/00~~; ~~overvoltage arresters using spark gaps H01T 4/00~~; emergency protective circuit arrangements [H02H](#); switching by electronic means without contact-making [H03K 17/00](#))

NOTES

~~1.~~

~~Attention is drawn to the Notes following the titles of class B81 and subclass B81B relating to "microstructural devices" and "microstructural systems"~~

~~2.~~ 1. This subclass covers (in groups [H01H 69/00](#) - [H01H 87/00](#)) devices for the protection of electric lines or electric machines or apparatus in the event of undesired change from normal electric working conditions, the electrical condition serving directly as the input to the device.

~~3.~~ 2. This subclass does not cover bases, casings, or covers accommodating two or more switching devices or for accommodating a switching device as well as another electric component, e.g. bus-bar, line connector. Those bases, casings or covers are covered by group [H02B 1/26](#).

~~4.~~ 3. In this subclass, the following terms or expressions are used with the meanings indicated :

- "relay" means a switching device having contacts which are operated from electric inputs which supply, directly or indirectly, all the mechanical energy necessary to cause both the closure and the opening of the contacts;

- "driving mechanism" refers to the means by which an operating force applied to the switch is transmitted to the moving contact or contacts;
- "operating" is used in a broader sense than "actuating" which is reserved for those parts not touched by hand to effect switching;
- "acting" or "action" means a self-induced movement of parts at one stage of the switching.

These connotations apply to all parts of the verbs "to operate", "to actuate" and "to act" and to words derived therefrom, e.g. to "actuation".

5.4. In this subclass, details are classified as follows :

- details of an unspecified type of switching device, or disclosed as applicable to two or more kinds of switching devices designated by the terms or expressions "switches", "relays", "selector switches", and "emergency protective devices", are classified in groups [H01H 1/00](#) - [H01H 9/00](#);
- details of an unspecified type of switch, or disclosed as applicable to two or more types of switches as defined by groups [H01H 13/00](#) - [H01H 43/00](#) and sub-groups [H01H 35/02](#), [H01H 35/06](#), [H01H 35/14](#), [H01H 35/18](#), [H01H 35/24](#) and [H01H 35/42](#), all hereinafter called basic types, are classified in groups [H01H 1/00](#) - [H01H 9/00](#);
- details of an unspecified type of relay, or disclosed as applicable to two or more types of relays as defined by groups [H01H 51/00](#) - [H01H 61/00](#), hereinafter called basic types are classified in [H01H 45/00](#);
- details of an unspecified protective device, or applicable to two or more types of protective devices as defined by groups [H01H 73/00](#) - [H01H 83/00](#), hereinafter called basic types, are classified in [H01H 71/00](#).
- However, details only described with reference to, or clearly only applicable to, switching devices of a single basic type, are classified in the group appropriate to switching devices of that basic type, e.g. [H01H 19/02](#), [H01H 75/04](#);
- mechanical structural details of control members of switches or of keyboards such as keys, push-buttons, levers or other mechanisms for transferring the force to the activated elements are classified in this subclass, even when they are used for controlling electronic switches.

However, mechanical details directly producing electronic effects are classified in group [H03K 17/94](#).

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

H01H 13/708 - H01H 13/718	covered by	H01H 13/702
H01H 33/575	covered by	H01H 33/56
H01H 33/65	covered by	H01H 33/64
H01H 33/825	covered by	H01H 33/82
H01H 33/835	covered by	H01H 33/83
H01H 33/867	covered by	H01H 33/86
H01H 33/873	covered by	H01H 33/86
H01H 33/915	covered by	H01H 33/91
H01H 33/985	covered by	H01H 33/98
H01H 33/99	covered by	H01H 33/98

2. {In this subclass, non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.}

U H01H 1/00

Contacts (liquid contacts [H01H 29/04](#))

- M H01H 1/0036
- {Switches making use of microelectromechanical systems [MEMS] *(for electromagnetic relays H01H 50/005; for electrostatic relays H01H 59/0009);* *(for electrostatic relays H01H 59/0009, for electromagnetic relays H01H 50/005; MEMS manufacturing processes B81C)}*
- U H01H 1/02
- characterised by the material thereof {(containing gas-evolving material [H01H 33/765](#))}
- M H01H 1/021
- Composite ~~materials~~ *material*
- NOTES**
1. In this group, the following expression is used with the meaning indicated :
 - "composite material" is a material made of two or more different materials, e.g. coated material, layered materials or carbon fibres in a copper base or matrix
 2. Subject matter classifiable in more than one of ~~the~~ groups [H01H 1/023](#) - [H01H 1/029](#) should be classified in all relevant groups.
- U H01H 1/023
- • • having a noble metal as the basic material
- U H01H 1/0237
- • • • and containing oxides
- M H01H 1/02372
- • • • {containing as major components one or more oxides of the following elements only: Cd, Sn, Zn, In, Bi, Sb or Te ~~(if other oxides are mentioned H01H 1/0237)~~}
- U H01H 1/12
- characterised by the manner in which co-operating contacts engage
- U H01H 1/14
- • by abutting
- U H01H 1/20
- • • Bridging contacts {(for circuit breakers [H01H 73/045](#))}
- U H01H 1/2041
- • • • {Rotating bridge}
- M H01H 1/2058
- • • • {Rotating bridge being assembled in a cassette, which can be placed as a complete unit into a circuit breaker ~~(non-rotating bridges H01H 71/0235)~~}
- M H01H 1/36
- • by sliding ~~(by rolling or wrapping H01H 1/16)~~
- U H01H 1/40
- • • Contact mounted so that its contact-making surface is flush with adjoining insulation
- M H01H 1/403
- • • • {Contacts forming part of a printed circuit (multilayer keyboard switches [H01H 13/702](#); thumbwheel switches [H01H 19/001](#); for rotary switches with axial contact pressure [H01H 19/585](#); ~~printed contacts per se H05K~~)}
- M H01H 1/56
- Contact arrangements for providing make-before-break operation, e.g. for on-load tap ~~changing~~ *{-changing (for tap changers H01H 9/0016)}*
- M H01H 1/58
- Electric connections to or between contacts; Terminals *{((for high tension switches [H01H 33/025](#); for electromagnetic relays [H01H 50/14](#); for circuit breakers [H01H 71/08](#)); ~~electric connections in general H01R~~)}*
- M H01H 1/64
- Protective enclosures, baffle plates, or screens for contacts ~~(for arc-extinguishing H01H 9/30; for mercury contacts H01H 29/04)~~
- M H01H 3/00**
- Mechanisms for operating contacts (~~snap-action arrangements H01H 5/00; devices for introducing a predetermined time delay H01H 7/00; {for tap changers H01H 9/0027};~~ thermal actuating or release means [H01H 37/02](#))**
- U H01H 3/02
- Operating parts, i.e. for operating driving mechanism by a mechanical force external to the switch
- U H01H 3/16
- • adapted for actuation at a limit or other predetermined position in the path of a body, the relative movement of switch and body being primarily for a purpose other than the actuation of the switch, e.g. for a door switch, a limit switch, a floor-levelling switch of a lift

M	H01H 3/161	<ul style="list-style-type: none"> • • {for actuation by moving a closing member, e.g. door, cover; or lid (H01H 27/002 takes precedence; the switch controlling enclosed equipment H01H 9/226; safety arrangements on doors of dishwashers A47L 15/4236; of laundry washing machines D06F 37/42; of ovens F24C 14/00; F24C 15/022; locks with means for operating switches E05B 17/22; alarm locks E05B 45/06; safety edges for power-operated wings E05F 15/40; safety devices in connection with the locking of doors, covers, guards; or like members giving access to movable machine parts F16P 3/08; of microwave ovens H05B 6/76; switches operated by a removable member, wherein one single insertion movement of a key comprises an unlocking stroke and a switch actuating stroke, e.g. security switch for safety guards H01H 27/002)}
M	H01H 3/54	<ul style="list-style-type: none"> • Mechanisms for coupling or uncoupling operating parts, driving mechanism <i>mechanisms</i>, or contacts
U	H01H 5/00	Snap-action arrangements, i.e. in which during a single opening operation or a single closing operation energy is first stored and then released to produce or assist the contact movement
M	H01H 5/04	<ul style="list-style-type: none"> • Energy stored by deformation of elastic members (by deformation of bimetallic elements <i>element</i> in thermally-actuated switches H01H 37/54)
U	H01H 7/00	Devices for introducing a predetermined time delay between the initiation of the switching operation and the opening or closing of the contacts (time or time-programme switches H01H 43/00)
M	H01H 7/06	<ul style="list-style-type: none"> • with thermal timing means (thermally-actuated switches H01H 37/00)
M	H01H 9/00	Details of switching devices, not covered by groups H01H 1/00 - H01H 7/00 (casings for switchgear H02B 1/26; casings for electrical apparatus in general H05K 5/00)
M	H01H 9/10	<ul style="list-style-type: none"> • Adaptation for built-in fuses (mounting switch and fuse separately on, or in, common support H02B <i>H02B 1/18</i>)
U	H01H 9/16	<ul style="list-style-type: none"> • Indicators for switching condition, e.g. "on" or "off"
M	H01H 9/167	<ul style="list-style-type: none"> • • {Circuits for remote indication (for protection circuits H02H 3/04; for distribution networks H02J 13/00)}
M	H01H 9/20	<ul style="list-style-type: none"> • Interlocking, locking, or latching mechanisms (contacts adapted to act as latches H01H 1/52; by an auxiliary movement of the operating part or of an attachment thereto H01H 3/20; {for withdrawable switchgear H02B 11/00})
M	H01H 9/26	<ul style="list-style-type: none"> • • for interlocking two or more switches ({H01H 13/568 takes precedence};) by a detachable member H01H 9/28 {; for electromagnetic relays H01H 50/323})
U	H01H 9/30	<ul style="list-style-type: none"> • Means for extinguishing or preventing arc between current-carrying parts
M	H01H 9/40	<ul style="list-style-type: none"> • • Multiple main contacts for the purpose of dividing the current through, or potential drop along, the arc ({multiple parallel contact bars H01H 1/226})
M	H01H 9/46	<ul style="list-style-type: none"> • • using arcing-horn <i>horns</i> (using blow-out magnet H01H 9/44; arcing-horns per se H01T 4/14)
U	H01H 9/54	<ul style="list-style-type: none"> • Circuit arrangements not adapted to a particular application of the switching device and for which no provision exists elsewhere
M	H01H 9/56	<ul style="list-style-type: none"> • • for ensuring the operation of the switch at a predetermined point in the <i>ac</i> cycle

M	H01H 11/00	Apparatus or processes specially adapted for the manufacture of electric switches (processes specially adapted for manufacture of rectilinearly movable switches having a plurality of operating members associated with different sets of contacts, e.g. keyboards, H01H 13/88 ; processes or apparatus specially adapted for the manufacture or treatment of microstructural devices or systems, e.g. in combination with electrical devices, B81C)
U	H01H 13/00	Switches having rectilinearly-movable operating part or parts adapted for pushing or pulling in one direction only, e.g. push-button switch (wherein the operating part is flexible H01H 17/00)
M	H01H 13/02	<ul style="list-style-type: none"> Details (specially adapted for rectilinearly movable switches having operating members associated with different sets of contacts, e.g. keyboards, H01H 13/70)
U	H01H 13/12	<ul style="list-style-type: none"> • Movable parts; Contacts mounted thereon
U	H01H 13/20	<ul style="list-style-type: none"> • • Driving mechanisms
M	H01H 13/22	<ul style="list-style-type: none"> • • • acting with snap action (depending upon deformation of elastic membermembers H01H 13/26)
U	H01H 13/26	<ul style="list-style-type: none"> • Snap-action arrangements depending upon deformation of elastic members
U	H01H 13/28	<ul style="list-style-type: none"> • • using compression or extension of coil springs
M	H01H 13/32	<ul style="list-style-type: none"> • • • one end of spring being fixedly connected to the stationary or movable part of the switch and the other end reacting with a movable or stationary rigid member respectively through pins, cams, toothed, or other shaped surfaces
M	H01H 13/70	<ul style="list-style-type: none"> having a plurality of operating members associated with different sets of contacts, e.g. keyboard ((keyboards specially adapted for specific applications, see the relevant subclasses or groups, e.g. B41J, G06F 3/023, H04L 17/00, H04M 1/00; multiple switches specially adapted for electromechanical clocks or watches G04C 3/005); mounting together a plurality of independent switches H02B)
U	H01H 13/702	<ul style="list-style-type: none"> • with contacts carried by or formed from layers in a multilayer structure, e.g. membrane switches
M	H01H 13/704	<ul style="list-style-type: none"> • • characterised by the layers, e.g. by their material or stucturestructure (H01H 13/703 takes precedence)
U	H01H 15/00	Switches having rectilinearly-movable operating part or parts adapted for actuation in opposite directions, e.g. slide switch
M	H01H 15/005	<ul style="list-style-type: none"> {adapted for connection with printed circuit boards (in general H01H 1/5805)}
M	H01H 19/00	Switches operated by an operating part which is rotatable about a longitudinal axis thereof and which is acted upon directly by a solid body external to the switch, e.g. by a hand (rotary current collectors, distributors or interrupters H01R 39/00)
M	H01H 19/005	<ul style="list-style-type: none"> {Electromechanical pulse generators (integrated in time-pieces G04C 3/007)}
U	H01H 19/54	<ul style="list-style-type: none"> the operating part having at least five or an unspecified number of operative positions
U	H01H 19/60	<ul style="list-style-type: none"> • Angularly-movable actuating part carrying no contacts
M	H01H 19/63	<ul style="list-style-type: none"> • • Contacts actuated by axial cams {(H01H 19/6355 takes precedence)}
U	H01H 23/00	Tumbler or rocker switches, i.e. switches characterised by being operated by rocking an operating member in the form of a rocker button

NOTE

In this group, the term "rocking" is defined as pivotal motion in one plane about an axis parallel to the switch faceplate and located substantially centrally between the ends of the rocker button

- M H01H 23/006
 - {adapted for connection with printed circuit boards ~~(connections to printed circuits in general H01H 1/5805)~~}
- M H01H 27/00
 - Switches operated by a removable member, e.g. key, plug, ~~or~~ plate; Switches operated by setting members according to a single predetermined combination out of several possible settings (~~locking switch parts to prevent operation H01H 9/28~~; combined with plug-and-socket connectors H01R ~~H01R 13/70~~; with current-carrying plug H01R 31/08)**
- M H01H 27/06
 - Key inserted and then turned to effect operation of the switch ~~{(IC integrated in key and connected by turning key E05B 49/004)}~~
- M H01H 27/063
 - {wherein the switch cannot be moved to a third position, e.g. start position, unless the preceding movement was from a first position to a second position, e.g. ignition position ~~(starting of engines and safety devices F02N 11/00; safety means for electric spark ignition F02P 11/00)}~~
- M H01H 27/08
 - • wherein the key cannot be removed until the switch is returned to its original position ~~{(H01H 27/063; H01H 27/063 take takes precedence)}~~
- U H01H 29/00
 - Switches having at least one liquid contact (solid contacts wetted or soaked with mercury H01H 1/08)**
- M H01H 29/20
 - operated by tilting contact-liquid container ~~(centrifugal mercury switches H01H 29/26)~~
- M H01H 29/32
 - with contact made by a liquid jet, e.g. earthing switch with contact made by jet of water ~~(operated by direct electrodynamic action H01H 53/00)~~
- M H01H 31/00
 - Air-break switches for high tension without arc-extinguishing or arc-preventing means (in combination with high tension or heavy-current switches with arc-extinguishing or arc-preventing means H01H 33/00; ~~switching arrangements for the supply or distribution of electric power H02B~~)**
- U H01H 31/02
 - Details
- M H01H 31/04
 - • Interlocking mechanisms ~~(for interlocking with high-tension or heavy-current switches having arc-extinguishing or arc-preventing means H01H 33/52)~~
- M H01H 31/10
 - • for interlocking two or more switches ~~(for interlocking with high-tension or heavy-current switches having arc-extinguishing or arc-preventing means H01H 33/52)~~
- U H01H 33/00
 - High-tension or heavy-current switches with arc-extinguishing or arc-preventing means**
- U H01H 33/02
 - Details
- M H01H 33/021
 - {Use of solid insulating compounds resistant to the contacting fluid dielectrics and their decomposition products, e.g. to SF₆ ~~(insulators or insulating bodies characterised by the insulating materials; selection of materials for their insulating or dielectric properties per se H01B 3/00)}~~
- M H01H 33/04
 - • Means for extinguishing or preventing arc between current-carrying parts ~~(for switches in general H01H 9/30)~~
- M H01H 33/18
 - • using blow-out magnet ~~{(for vacuum switches H01H 33/664; pressure-generated arcs rotated by a magnetic field H01H 33/982)}~~
- M H01H 33/20
 - • using arcing horns (using blow-out magnet H01H 33/18; ~~arcing horns per se H01T 4/14~~)
- U H01H 33/28
 - • Power arrangements internal to the switch for operating the driving mechanism

- M H01H 33/36
 - • • using dynamo-electric motor ~~(for storing energy in a spring motor H01H 33/40)~~
- M H01H 33/38
 - • • using electromagnet ~~(for storing energy in a spring motor H01H 33/40)~~
- U H01H 33/60
 - Switches wherein the means for extinguishing or preventing the arc do not include separate means for obtaining or increasing flow of arc-extinguishing fluid
- D H01H 33/62
 - • {wherein the break is in air at atmospheric pressure, e.g. in open air} <administratively transferred to [H01H 33/65](#)>
- M H01H 33/64
 - • wherein the break is in gas (~~in air at atmospheric pressure H01H 33/62~~; vacuum switches [H01H 33/66](#))
- N H01H 33/65
 - • • wherein the break is in air at atmospheric pressure, e.g. in open air

M H01H 35/00 **Switches operated by change of a physical condition (operated by change of magnetic or electric field [H01H 36/00](#); thermally-actuated switches [H01H 37/00](#); time switches [H01H 43/00](#); relays [H01H 45/00](#) - [H01H 61/00](#); sensing elements for providing continuous conversion of a variable into mechanical displacement G01)**

NOTE

A switching device is classified according to that physical condition which, when changed, acts as input to the device, e.g. external explosion causing pressure wave to act upon switch is classified in group [H01H 35/24](#), an explosion produced within the switch in group [H01H 37/00](#) if initiated by heat, in group [H01H 39/00](#) if initiated electrically, and in group [H01H 35/14](#) if initiated by an external blow.

- M H01H 35/02
 - Switches operated by change of position, inclination or orientation of the switch itself in relation to gravitational field (tilting mercury container [H01H 29/20](#); change of position due to change of liquid level [H01H 35/18](#); ~~{specially adapted for electromechanical clocks or watches G04C 3/002}~~)
- M H01H 35/18
 - Switches operated by change of liquid level or of liquid density, e.g. float switch (~~wherein the liquid constitutes a contact of the switch H01H 29/00~~; by magnet carried on a float [H01H 36/02](#))
- M H01H 36/00** **Switches actuated by change of magnetic field or of electric field, e.g. by change of relative position of magnet and switch, by shielding ~~{(specially adapted for electromechanical clocks or watches G04C 3/004)}~~**
- M H01H 37/00** **Thermally-actuated switches ~~(electrothermal relays operated by electrical input H01H 61/00; protective switches with electrothermal release or actuation H01H 73/00 - H01H 83/00)~~**
- U H01H 37/02
 - Details
- M H01H 37/32
 - • Thermally-sensitive members ~~(temperature responsive elements in general G01K)~~
- M H01H 37/323
 - • • {making use of shape memory materials (in thermal relays [H01H 61/0107](#); release mechanism [H01H 71/145](#); treatment of SMF alloys [C22F 1/006](#); ~~in general G01K 5/483, G12B 1/00~~; for control of temperature [G05D 23/024](#))}
- M H01H 37/74
 - Switches in which only the opening movement or only the closing movement of a contact is effected by heating or cooling ~~(for the electrical protection of electric lines or electric apparatus H01H 73/00 - H01H 83/00)~~
- M H01H 37/76
 - • Contact member actuated by melting of fusible material, actuated due to burning of combustible material or due to explosion of explosive material ~~(fuses H01H 85/00)~~
- M H01H 41/00** **Switches providing a selected number of consecutive operations of the contacts by a single manual actuation of the operating part ~~(for telephone communication H04M 1/26)~~**

M	H01H 43/00	Time or time-programme switches providing a choice of time-intervals for executing one or more switching actions and automatically terminating their operations after the programme is completed (clocks with attached or built-in means operating any device at preselected times or after preselected time-intervals G04C 23/00; {apparatus which can be set and started to measure off predetermined intervals G04F 3/06}; programme-control systems G05B 19/00)
U	H01H 43/02	• Details
M	H01H 43/024	• {Terminal arrangements (in general H01H 1/58)}
M	H01H 45/00	Details of relays (electric circuit arrangements H01H 47/00 ; of electromagnetic relays H01H 50/00 ; details of electrically-operated selector switches H01H 63/00 {; testing of relays G01R 31/00; relays for emergency protective circuit arrangements H02H})
M	H01H 45/10	• Electromagnetic or electrostatic shielding (casings H01H 45/02 {; screening in general H05K 9/00})
M	H01H 47/00	Circuit arrangements not adapted to a particular application of the relay and designed to obtain desired operating characteristics or to provide energising current (circuit arrangements for electro-magnets in general H01F 7/18)
U	H01H 47/22	• for supplying energising current for relay coil
M	H01H 47/34	• • Energising current supplied by magnetic amplifier ({magnetic amplifiers H03F 9/00})
M	H01H 50/00	Details of electromagnetic relays ({H01H 51/28 takes precedence;} electric circuit arrangements H01H 47/00 ; details of electrically-operated select or selector switches H01H 63/00 ; {testing of relays G01R 31/00; electromagnets in general H01F 7/06; relays for emergency protective circuit arrangements H02H})
U	H01H 50/02	• Bases; Casings; Covers (frames for mounting two or more relays or for mounting a relay and another electric component H02B 1/01 , H04Q 1/08 , H05K)
M	H01H 50/023	• • {Details concerning sealing, e.g. sealing casing with resin (in general H01H 9/04)}
M	H01H 50/10	• Electromagnetic or electrostatic shielding (casings H01H 50/02 {; screening in general H05K 9/00})
M	H01H 50/16	• Magnetic circuit arrangements (cores, yokes, or armatures in general H01F 3/00; magnets in general H01F 7/00)
U	H01H 50/18	• • Movable parts of magnetic circuits, e.g. armature
U	H01H 50/32	• • • Latching movable parts mechanically
M	H01H 50/323	• • • {for interlocking two or more relays (in general H01H 9/26)}
M	H01H 50/44	• Magnetic coils or winding windings (circuit arrangements H01H 47/00 ; in general H01F 5/00)
M	H01H 50/54	• Contact arrangements (contacts for switches in general H01H 1/00)
M	H01H 50/541	• • {Auxiliary contact devices (in general H01H 9/0066)}
U	H01H 51/00	Electromagnetic relays (relays using the dynamo-electric effect H01H 53/00)
U	H01H 51/02	• Non-polarised relays
U	H01H 51/04	• • with single armature; with single set of ganged armatures

M	H01H 51/06	<ul style="list-style-type: none"> • • Armature is movable between two limit positions of rest and is moved in one direction due to energisation of an electromagnet and after the electromagnet is de-energised is returned by energy stored during the movement in the first direction, e.g. by using a spring, by using a permanent magnet, by gravity {{(motors with armature moved one way and returned by spring in general H02K 33/02)}}
M	H01H 51/12	<ul style="list-style-type: none"> • • Armature is movable between two limit positions of rest and is moved in both directions due to the energisation of one or the other of two electromagnets without the storage of energy to effect the return movement {{(motors with armature moved one way and returned by spring in general H02K 33/02)}}
M	H01H 51/22	<ul style="list-style-type: none"> • Polarised relays {{(H01H 51/28 H01H 51/284 takes precedence)}}
U	H01H 51/28	<ul style="list-style-type: none"> • Relays having both armature and contacts within a sealed casing outside which the operating coil is located, e.g. contact carried by a magnetic leaf spring or reed (H01H 51/27 takes precedence)
M	H01H 51/284	<ul style="list-style-type: none"> • • {Polarised relays (polarised relays in general H01H 51/22)}
M	H01H 51/30	<ul style="list-style-type: none"> • specially adapted for actuation by alternating current ac
M	H01H 51/32	<ul style="list-style-type: none"> • • Frequency relays; Mechanically-tuned relays {{(switched devices for electric time devices G04C; electromechanical resonators H03H 9/00; telegraph circuits with oscillating relay H04L 25/205; mechanical means for producing a desired natural frequency of operation of the contacts H01H 50/74)}}
U	H01H 53/00	Relays using the dynamo-electric effect, i.e. relays in which contacts are opened or closed due to relative movement of current-carrying conductor and magnetic field caused by force of interaction between them
M	H01H 53/10	<ul style="list-style-type: none"> • Induction relays, i.e. relays in which the interaction is between a magnetic field and current induced thereby in a conductor {{(parts of protective circuit arrangements H02H 1/00)}}
M	H01H 53/14	<ul style="list-style-type: none"> • Contacts actuated by an electric motor through fluid-pressure transmission, e.g. using a motor-driven pump {{(switches using dynamo-electric motor H01H 3/26)}}
M	H01H 59/00	Electrostatic relays; Electro-adhesion relays {{(electrostatic measuring instruments G01R 5/28); clutches in general using the Johnson-Rahbek effect H02N 13/00; {electrostatic transducers H04R 19/00; systems for preventing the formation of electrostatic charges H05F)}}
U	H01H 61/00	Electrothermal relays (thermal switches not operated by electrical input, thermal switches with anticipating electrical input H01H 37/00; thermally-sensitive members H01H 37/32)
U	H01H 61/01	<ul style="list-style-type: none"> • Details
M	H01H 61/0107	<ul style="list-style-type: none"> • • {making use of shape memory materials (in general H01H 37/323)}
M	H01H 63/00	Details of electrically-operated selector switches (details of relays H01H 45/00)
M	H01H 67/00	Electrically-operated selector switches (details thereof H01H 63/00; selecting in general H04Q)
M	H01H 69/00	Apparatus or processes for the manufacture of emergency protective devices (manufacture of switches in general H01H 11/00; manufacture of relays in general H01H 49/00)
M	H01H 69/01	<ul style="list-style-type: none"> • for calibrating or setting of devices to function under predetermined conditions (measuring electric values G01R)
U	H01H 71/00	Details of the protective switches or relays covered by groups H01H 73/00 - H01H 83/00

M	H01H 71/08	• Terminals; Connections (in general H01R)
U	H01H 71/10	• Operating or release mechanisms
U	H01H 71/12	• • Automatic release mechanisms with or without manual release
U	H01H 71/14	• • • Electrothermal mechanisms {(combined with a electro-thermal time delay relay H01H 61/002)}
M	H01H 71/145	• • • • {using shape memory materials (H01H 71/16 takes precedence; in general H01H 37/323)}
U	H01H 71/24	• • • Electromagnetic mechanisms
M	H01H 71/2445	• • • • {using a reed switch (reed switches in general H01H 51/28 ; for current measuring G01R 19/16509)}
U	H01H 71/50	• • Manual reset mechanisms {which may be also used for manual release}
M	H01H 71/504	• • • {provided with anti-rebound means (for switches in general H01H 1/50) }
U	H01H 73/00	Protective overload circuit-breaking switches in which excess current opens the contacts by automatic release of mechanical energy stored by previous operation of a hand reset mechanism
U	H01H 73/02	• Details
U	H01H 73/04	• • Contacts
M	H01H 73/045	• • • {Bridging contacts (specific details for the contacting bridge per se H01H 1/20 and subgroups, e.g. rotating bridge H01H 1/2041) }
U	H01H 73/06	• • Housings; Casings; Bases; Mountings
M	H01H 73/08	• • • Plug-in housings {(for a plurality of juxtaposed housings H02B 1/056)}
M	H01H 73/12	• • Means for indicating condition of the switch {(by means of an auxiliary contact H01H 71/46)}
M	H01H 73/18	• • Means for extinguishing or suppressing arc {(in general H01H 9/30 -- H01H 9/46; magnet coil acting as blow-out device H01H 71/38)}
M	H01H 73/20	• • Terminals; Connections (in general H01R)
M	H01H 85/00	Protective devices in which the current flows through a part of fusible material and this current is interrupted by displacement of the fusible material when this current becomes excessive (switches actuated by melting of fusible material H01H 37/76; automatic release of protective switches due to fusion of a mass H01H 73/00 -- H01H 83/00; disposition or arrangement of fuses on boards H02B 1/18)
M	H01H 85/02	• Details (electrical connections in general H01R)
U	H01H 85/04	• • Fuses, i.e. expendable parts of the protective device, e.g. cartridges
U	H01H 85/05	• • • Component parts thereof
M	H01H 85/165	• • • • Casings (electrical contacts H01H 85/143; fillings H01H 85/18)
M	H01H 85/20	• • Bases for supporting the fuse; Separate parts thereof (bases, casings for connectors, in general H01R)
M	H01H 85/22	• • Intermediate or auxiliary parts for carrying, holding, or retaining fuse, cooperating co-operating with base or fixed holder, and removable therefrom for renewing the fuse
M	H01H 85/25	• • Safety arrangements preventing or inhibiting contact with live parts, including operation of isolation on removal of cover (interlocking between casing or protective shutter of a switch and mechanism for operating its contacts H01H 9/22)
M	H01H 85/54	• Protecting Protective devices wherein the fuse is carried, held, or retained by an intermediate or auxiliary part removable from the base, or used as sectionalisers

- U H01H 85/56
 - the intermediate or auxiliary part having side contacts for plugging into the base, e.g. bridge-carrier type
- M H01H 85/58
 - with intermediate ~~or~~ auxiliary part and base shaped to interfit and thereby enclose the fuse
- M H01H 89/00

Combinations of two or more different basic types of electric switches, relays, selectors and emergency protective devices, not covered by ~~any~~ single one of the ~~preceding main groups~~ other main groups of this subclass
- M H01H 89/06
 - Combination of a manual reset circuit ~~breaker~~ with a contactor, i.e. the same circuit controlled by both a protective and a remote control device
- U H01H 89/08
 - with both devices using the same contact pair
- M H01H 89/10
 - with each device controlling one of the two *co-operating contacts*

Project: RP0677 (H02M)

C H02M 1/00 Details of apparatus for conversion

WARNING

Group H02M 1/00 is impacted by reclassification into group H02M 1/0043. Groups H02M 1/00 and H02M 1/0043 should be considered in order to perform a complete search.

- D H02M 2001/0003
 - ~~{Details of control, feedback and regulation circuits}~~
 - <administratively transferred to [H02M 1/0003](#) ADD>
- N H02M 1/0003
 - *{Details of control, feedback or regulation circuits}*
- D H02M 2001/0006
 - ~~{Arrangements for supplying an adequate voltage to the control circuit of a converter}~~
 - <administratively transferred to [H02M 1/0006](#) ADD>
- N H02M 1/0006
 - *{Arrangements for supplying an adequate voltage to the control circuit of converters}*
- D H02M 2001/0009
 - ~~{Devices and circuits for detecting current in a converter}~~
 - <administratively transferred to [H02M 1/0009](#) ADD>
- N H02M 1/0009
 - *{Devices or circuits for detecting current in a converter}*
- D H02M 2001/0012
 - ~~{Control circuits using digital or numerical techniques (in dc/dc converters H02M 3/157, H02M 3/33515; in dc-ac converters H02M 7/53873)}~~
 - <administratively transferred to [H02M 1/0012](#) ADD>
- N H02M 1/0012
 - *{Control circuits using digital or numerical techniques (in DC/DC converters [H02M 3/157](#), [H02M 3/33515](#); in DC-AC converters [H02M 7/53873](#))}*
- D H02M 2001/0016
 - ~~{Control circuits providing compensation of output voltage deviations using feedforward of disturbance parameter}~~
 - <administratively transferred to [H02M 1/0016](#) ADD>
- N H02M 1/0016
 - *{Control circuits providing compensation of output voltage deviations using feedforward of disturbance parameters}*
- D H02M 2001/0019
 - ~~{the disturbance parameter being load current fluctuations}~~
 - <administratively transferred to [H02M 1/0019](#) ADD>
- N H02M 1/0019
 - *{the disturbance parameters being load current fluctuations}*
- D H02M 2001/0022
 - ~~{the disturbance parameter being input voltage fluctuations}~~
 - <administratively transferred to [H02M 1/0022](#) ADD>
- N H02M 1/0022
 - *{the disturbance parameters being input voltage fluctuations}*

- D H02M 2001/0025
- {Arrangements for modifying reference value, feedback value or error value in the control loop of a converter}
- <administratively transferred to [H02M 1/0025](#) ADD>
- N H02M 1/0025
- {Arrangements for modifying reference values, feedback values or error values in the control loop of a converter}
- D H02M 2001/0029
- {Circuits or arrangements for limiting the slope ("slew rate") of switching signals}
- <administratively transferred to [H02M 1/0029](#) ADD>
- N H02M 1/0029
- {Circuits or arrangements for limiting the slope of switching signals, e.g. slew rate}
- D H02M 2001/0032
- {Control circuits allowing low power mode operation, e.g. "standby"}
- <administratively transferred to [H02M 1/0032](#) ADD>
- N H02M 1/0032
- {Control circuits allowing low power mode operation, e.g. in standby mode}
- D H02M 2001/0035
- • {by burst mode control}
- <administratively transferred to [H02M 1/0035](#) ADD>
- N H02M 1/0035
- • {using burst mode control}
- D H02M 2001/0038
- {Circuits or arrangements for suppressing, e.g. by masking incorrect turn-on or turn-off signals, e.g. due to current spikes in current mode control}
- <administratively transferred to [H02M 1/0038](#) ADD>
- N H02M 1/0038
- {Circuits or arrangements for suppressing, e.g. by masking incorrect turn-on or turn-off signals, e.g. due to current spikes in current mode control}
- D H02M 2001/0041
- {Control circuits in which a clock signal is selectively enabled or disabled}
- <administratively transferred to [H02M 1/0041](#) ADD>
- N H02M 1/0041
- {Control circuits in which a clock signal is selectively enabled or disabled}
- N H02M 1/0043
- {Converters switched with a phase shift, i.e. interleaved (non-isolated DC/DC converters [H02M 3/1586](#))}
- WARNING**
- Group [H02M 1/0043](#) is incomplete pending reclassification of documents from groups [H02M 1/00](#) and [H02M 7/493](#).
- Groups [H02M 1/00](#), [H02M 7/493](#) and [H02M 1/0043](#) should be considered in order to perform a complete search.
- D H02M 2001/0045
- {Converters combining the concepts of switch-mode regulation and linear regulation, e.g. linear preregulator to switching converter, linear and switching converter in parallel, same converter or same transistor operating either in linear or switching mode}
- <administratively transferred to [H02M 1/0045](#) ADD>
- N H02M 1/0045
- {Converters combining the concepts of switch-mode regulation and linear regulation, e.g. linear pre-regulator to switching converter, linear and switching converter in parallel, same converter or same transistor operating either in linear or switching mode}
- D H02M 2001/0048
- {Circuits or arrangements for reducing losses (using snubbers [H02M 1/34](#))}
- <administratively transferred to [H02M 1/0048](#) ADD>
- N H02M 1/0048
- {Circuits or arrangements for reducing losses (using snubbers [H02M 1/34](#))}
- D H02M 2001/0051
- {Diode reverse recovery losses}
- <administratively transferred to [H02M 1/0051](#) ADD>
- N H02M 1/0051
- {Diode reverse recovery losses}

- D H02M 2001/0054
- {Transistor switching losses (periodically suspending operation of switching converter in low power mode H02M 2001/0035)}
- <administratively transferred to [H02M 1/0054](#) ADD>
- N H02M 1/0054
- {Transistor switching losses (periodically suspending operation of switching converter in low power mode [H02M 1/0035](#))}
- D H02M 2001/0058
- • {by employing soft switching techniques, i.e. commutation of transistor when voltage applied to it is zero and/or when current flowing through it is zero (in resonant inverters H02M 2007/4815; in inverters operating from a resonant dc source H02M 7/4826; using an auxiliary actively switched resonant commutation circuit connected to an intermediate dc voltage or between two push-pull branches of an inverter bridge H02M 2007/4811)}
- <administratively transferred to [H02M 1/0058](#) ADD>
- N H02M 1/0058
- • {by employing soft switching techniques, i.e. commutation of transistors when applied voltage is zero or when current flow is zero (using an auxiliary actively switched resonant commutation circuit connected to an intermediate DC voltage or between two push-pull branches of an inverter bridge [H02M 7/4811](#); in resonant inverters [H02M 7/4815](#); in inverters operating from a resonant DC source [H02M 7/4826](#))}
- D H02M 2001/0064
- {Magnetic structures combining different functions, e.g. storage, filtering, transformation}
- <administratively transferred to [H02M 1/0064](#) ADD>
- N H02M 1/0064
- {Magnetic structures combining different functions, e.g. storage, filtering or transformation}
- D H02M 2001/0067
- {Converter structures employing plural converter units, other than for parallel operation of the units on a single load}
- <administratively transferred to [H02M 1/0067](#) ADD>
- N H02M 1/0067
- {Converter structures employing plural converter units, other than for parallel operation of the units on a single load}
- D H02M 2001/007
- • {Plural converter units in cascade (push-pull dc/dc converters with preregulator H02M 3/3374; dc-ac converters following a dc-dc stage which includes a high frequency transformer H02M 7/4807; dc-ac converters following a dc-dc conversion stage which generates a periodically varying voltage H02M 7/4826)}
- <administratively transferred to [H02M 1/007](#) ADD>
- N H02M 1/007
- • {Plural converter units in cascade (push-pull DC/DC converters with pre-regulator [H02M 3/3374](#); DC-AC converters following a DC-DC stage including a high frequency transformer [H02M 7/4807](#); DC-AC converters following a DC-DC conversion stage generating periodically varying voltages [H02M 7/4826](#))}
- D H02M 2001/0074
- • {Plural converter units whose inputs are connected in series}
- <administratively transferred to [H02M 1/0074](#) ADD>
- N H02M 1/0074
- • {Plural converter units whose inputs are connected in series}
- D H02M 2001/0077
- • {Plural converter units whose outputs are connected in series}
- <administratively transferred to [H02M 1/0077](#) ADD>
- N H02M 1/0077
- • {Plural converter units whose outputs are connected in series}
- D H02M 2001/008
- • {Plural converter units for generating at least two independent, non-parallel outputs, e.g. systems with plural point of load switching regulators}
- <administratively transferred to [H02M 1/008](#) ADD>
- N H02M 1/008
- • {Plural converter units for generating at two or more independent and non-parallel outputs, e.g. systems with plural point of load switching regulators}

- D H02M 2001/0083 • {Converters characterized by their input or output configuration}
<administratively transferred to [H02M 1/0083](#) ADD>
- Q H02M 1/0083 • {Converters characterised by their input or output configuration}
WARNING
Group [H02M 1/0083](#) is impacted by reclassification into groups [H02M 1/0085](#) and [H02M 1/0095](#).
Groups [H02M 1/0083](#), [H02M 1/0085](#) and [H02M 1/0095](#) should be considered in order to perform a complete search.
- N H02M 1/0085 • • {Partially controlled bridges}
WARNING
Group [H02M 1/0085](#) is incomplete pending reclassification of documents from groups [H02M 1/0083](#), [H02M 1/4225](#) and [H02M 1/4233](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- D H02M 2001/0087 • • {adapted for receiving as input a current source}
<administratively transferred to [H02M 1/0087](#) ADD>
- N H02M 1/0087 • • {adapted for receiving as input a current source}
- D H02M 2001/009 • • {having more than one output with independent control (for dc-dc converter with intermediate ac [H02M 3/33561](#))}
<administratively transferred to [H02M 1/009](#) ADD>
- N H02M 1/009 • • {having two or more independently controlled outputs (for DC-DC converter with intermediate AC [H02M 3/33561](#))}
- D H02M 2001/0093 • • {wherein the output is created by adding a regulated voltage to or subtracting it from an unregulated input}
<administratively transferred to [H02M 1/0093](#) ADD>
- N H02M 1/0093 • • {wherein the output is created by adding a regulated voltage to or subtracting it from an unregulated input}
- N H02M 1/0095 • {Hybrid converter topologies, e.g. NPC mixed with flying capacitor, thyristor converter mixed with MMC or charge pump mixed with buck}
WARNING
Group [H02M 1/0095](#) is incomplete pending reclassification of documents from group [H02M 1/0083](#).
Groups [H02M 1/0083](#) and [H02M 1/0095](#) should be considered in order to perform a complete search.
- D H02M 2001/0096 • {Means for increasing hold-up time, i.e. the duration of time that a converter's output will remain within regulated limits following a loss of input power}
<administratively transferred to [H02M 1/0096](#) ADD>
- N H02M 1/0096 • {Means for increasing hold-up time, i.e. the duration of time that a converter's output will remain within regulated limits following a loss of input power}
- U H02M 1/12 • Arrangements for reducing harmonics from ac input or output
- D H02M 2001/123 • • {Suppression of common mode voltage or current}
<administratively transferred to [H02M 1/123](#) ADD>
- N H02M 1/123 • • {Suppression of common mode voltage or current}
- U H02M 1/32 • Means for protecting converters other than automatic disconnection
- D H02M 2001/322 • • {Means for rapidly discharging a capacitor of the converter, in order to protect electrical components or prevent electrical shock}
<administratively transferred to [H02M 1/322](#) ADD>

N	H02M 1/322	<ul style="list-style-type: none"> • {Means for rapidly discharging a capacitor of the converter for protecting electrical components or for preventing electrical shock}
D	H02M 2001/325	<ul style="list-style-type: none"> • {with means for allowing continuous operation despite a fault, i.e. fault tolerant converters} <p><administratively transferred to H02M 1/325 ADD></p>
N	H02M 1/325	<ul style="list-style-type: none"> • {with means for allowing continuous operation despite a fault, i.e. fault tolerant converters}
D	H02M 2001/327	<ul style="list-style-type: none"> • {against abnormal temperatures} <p><administratively transferred to H02M 1/327 ADD></p>
N	H02M 1/327	<ul style="list-style-type: none"> • {against abnormal temperatures}
U	H02M 1/34	<ul style="list-style-type: none"> • Snubber circuits
D	H02M 2001/342	<ul style="list-style-type: none"> • {Active non-dissipative snubbers} <p><administratively transferred to H02M 1/342 ADD></p>
N	H02M 1/342	<ul style="list-style-type: none"> • {Active non-dissipative snubbers}
D	H02M 2001/344	<ul style="list-style-type: none"> • {Active dissipative snubbers} <p><administratively transferred to H02M 1/344 ADD></p>
N	H02M 1/344	<ul style="list-style-type: none"> • {Active dissipative snubbers}
D	H02M 2001/346	<ul style="list-style-type: none"> • {Passive non-dissipative snubbers} <p><administratively transferred to H02M 1/346 ADD></p>
N	H02M 1/346	<ul style="list-style-type: none"> • {Passive non-dissipative snubbers}
D	H02M 2001/348	<ul style="list-style-type: none"> • {Passive dissipative snubbers} <p><administratively transferred to H02M 1/348 ADD></p>
N	H02M 1/348	<ul style="list-style-type: none"> • {Passive dissipative snubbers}
U	H02M 1/38	<ul style="list-style-type: none"> • Means for preventing simultaneous conduction of switches
D	H02M 2001/385	<ul style="list-style-type: none"> • {with means for correcting output voltage deviations introduced by the dead time} <p><administratively transferred to H02M 1/385 ADD></p>
N	H02M 1/385	<ul style="list-style-type: none"> • {with means for correcting output voltage deviations introduced by the dead time}
U	H02M 1/42	<ul style="list-style-type: none"> • Circuits or arrangements for compensating for or adjusting power factor in converters or inverters
U	H02M 1/4208	<ul style="list-style-type: none"> • {Arrangements for improving power factor of AC input}
C	H02M 1/4225	<ul style="list-style-type: none"> • {using a non-isolated boost converter} <p>WARNING Group H02M 1/4225 is impacted by reclassification into group H02M 1/0085. Groups H02M 1/4225 and H02M 1/0085 should be considered in order to perform a complete search.</p>
C	H02M 1/4233	<ul style="list-style-type: none"> • {using a bridge converter consisting of comprising active switches} <p>WARNING Group H02M 1/4233 is impacted by reclassification into group H02M 1/0085. Groups H02M 1/4233 and H02M 1/0085 should be considered in order to perform a complete search.</p>
D	H02M 2001/4275	<ul style="list-style-type: none"> • {by adding an auxiliary output voltage in series to the input} <p><administratively transferred to H02M 1/4275 ADD></p>

- N H02M 1/4275 • • • {by adding an auxiliary output voltage in series to the input}
- D H02M 2001/4283 • • • {by adding a controlled rectifier in parallel to a first rectifier feeding a smoothing capacitor}
 <administratively transferred to [H02M 1/4283](#) ADD>
- N H02M 1/4283 • • • {by adding a controlled rectifier in parallel to a first rectifier feeding a smoothing capacitor}
- D H02M 2001/4291 • • • {by using a Buck converter to switch the input current}
 <administratively transferred to [H02M 1/4291](#) ADD>
- N H02M 1/4291 • • • {by using a Buck converter to switch the input current}

C H02M 3/00**Conversion of dc power input into dc power output****WARNING**

Group [H02M 3/00](#) is impacted by reclassification into group [H02M 3/003](#). Groups [H02M 3/00](#) and [H02M 3/003](#) should be considered in order to perform a complete search.

- N H02M 3/003 • {Constructional details, e.g. physical layout, assembly, wiring or busbar connections}
 WARNING
 Group [H02M 3/003](#) is incomplete pending reclassification of documents from group [H02M 3/00](#). Groups [H02M 3/00](#) and [H02M 3/003](#) should be considered in order to perform a complete search.
- U H02M 3/005 • {using Cuk converters}
- N H02M 3/01 • {Resonant DC/DC converters}
 WARNING
 Groups [H02M 3/01](#) and [H02M 3/015](#) are incomplete pending reclassification of documents from groups [H02M 3/33569](#) and [H02M 3/337](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N H02M 3/015 • • {with means for adaptation of resonance frequency, e.g. by modification of capacitance or inductance of resonance circuit}
- U H02M 3/02 • without intermediate conversion into ac
- U H02M 3/04 • • by static converters
- U H02M 3/06 • • • using resistors or capacitors, e.g. potential divider
- U H02M 3/07 • • • • using capacitors charged and discharged alternately by semiconductor devices with control electrode {, e.g. charge pumps}
- D H02M 2003/071 • • • • {adapted to generate a negative voltage output from a positive voltage source}
 <administratively transferred to [H02M 3/071](#) ADD>
- N H02M 3/071 • • • • {adapted to generate a negative voltage output from a positive voltage source}
- D H02M 2003/072 • • • • {adapted to generate an output voltage whose value is lower than the input voltage}
 <administratively transferred to [H02M 3/072](#) ADD>
- N H02M 3/072 • • • • {adapted to generate an output voltage whose value is lower than the input voltage}
- M H02M 3/073 • • • • {Charge pumps of the **SCHENKEL** *Schenkel*-type}

- D H02M 2003/075 {including a plurality of stages and two sets of clock signals, one set for the odd and one set for the even numbered stages}
<administratively transferred to [H02M 3/075](#) ADD>
- N H02M 3/075 {including a plurality of stages and two sets of clock signals, one set for the odd and one set for the even numbered stages}
- D H02M 2003/076 {the clock signals being boosted to a value which is higher than input voltage value}
<administratively transferred to [H02M 3/076](#) ADD>
- N H02M 3/076 {the clock signals being boosted to a value being higher than the input voltage value}
- D H02M 2003/077 {with parallel-connected charge pump stages}
<administratively transferred to [H02M 3/077](#) ADD>
- N H02M 3/077 {with parallel connected charge pump stages}
- D H02M 2003/078 {with means for reducing the back bias effect, i.e. the effect which causes the threshold voltage of transistors to increase as more stages are added to the converter}
<administratively transferred to [H02M 3/078](#) ADD>
- N H02M 3/078 {with means for reducing the back bias effect, i.e. the effect which causes the threshold voltage of transistors to increase as more stages are added to the converters}
- U H02M 3/10 . . . using discharge tubes with control electrode or semiconductor devices with control electrode ([H02M 3/07](#) takes precedence)
- U H02M 3/145 using devices of a triode or transistor type requiring continuous application of a control signal
- U H02M 3/155 using semiconductor devices only
- D H02M 2003/1552 {Boost converters exploiting the leakage inductance of a transformer or of an alternator as boost inductor}
<administratively transferred to [H02M 3/1552](#) ADD>
- N H02M 3/1552 {Boost converters exploiting the leakage inductance of a transformer or of an alternator as boost inductor}
- D H02M 2003/1555 {for the generation of a regulated current to a load whose impedance is substantially inductive}
<administratively transferred to [H02M 3/1555](#) ADD>
- N H02M 3/1555 {for the generation of a regulated current to a load whose impedance is substantially inductive}
- D H02M 2003/1557 {Single ended primary inductor converters [SEPIC]}
<administratively transferred to [H02M 3/1557](#) ADD>
- N H02M 3/1557 {Single ended primary inductor converters [SEPIC]}
- U H02M 3/156 with automatic control of output voltage or current, e.g. switching regulators
- D H02M 2003/1566 {with means for compensating against rapid load changes, e.g. with auxiliary current source, with dual mode control, with inductance variation}
<administratively transferred to [H02M 3/1566](#) ADD>
- N H02M 3/1566 {with means for compensating against rapid load changes, e.g. with auxiliary current source, with dual mode control or with inductance variation}
- U H02M 3/158 including plural semiconductor devices as final control devices for a single load

- | | | |
|---|----------------|--|
| U | H02M 3/1584 | {with a plurality of power processing stages connected in parallel} |
| D | H02M 2003/1586 | {switched with a phase shift, i.e. interleaved} |
| | | <administratively transferred to H02M 3/1586 ADD> |
| N | H02M 3/1586 | {switched with a phase shift, i.e. interleaved} |
| U | H02M 3/22 | . with intermediate conversion into ac |
| U | H02M 3/24 | . . by static converters |
| U | H02M 3/28 | . . . using discharge tubes with control electrode or semiconductor devices with control electrode to produce the intermediate ac |
| U | H02M 3/325 | using devices of a triode or a transistor type requiring continuous application of a control signal |
| U | H02M 3/335 | using semiconductor devices only |
| M | H02M 3/33507 | {with automatic control of the output voltage or current, <i>e.g. flyback converters</i> (H02M 3/33561 , H02M 3/33569 take precedence)} |
| M | H02M 3/33523 | {with galvanic isolation between input and output <i>of both the power stage and the feedback loop</i> } |
| U | H02M 3/33538 | {of the forward type (H02M 3/3353 , H02M 3/33569 take precedence)} |
| U | H02M 3/33546 | {with automatic control of the output voltage or current (H02M 3/33561 takes precedence)} |
| M | H02M 3/33553 | {with galvanic isolation between input and output <i>of both the power stage and the feedback loop</i> } |
| C | H02M 3/33569 | {having several active switching elements (H02M 3/3353 takes precedence)} |

WARNING

Group H02M 3/33569 is impacted by reclassification into groups H02M 3/33571, H02M 3/33573, H02M 3/01 and H02M 3/015. All groups listed in this Warning should be considered in order to perform a complete search.

- N H02M 3/3571 {Half-bridge at primary side of an isolation transformer}

WARNING

Group [H02M 3/33571](#) is incomplete pending reclassification of documents from groups [H02M 3/33569](#) and [H02M 3/337](#). Groups [H02M 3/33569](#), [H02M 3/337](#) and [H02M 3/33571](#) should be considered in order to perform a complete search.

- N H02M 3/3573 {Full-bridge at primary side of an isolation transformer}

WARNING

Group [H02M 3/33573](#) is incomplete pending reclassification of documents from groups [H02M 3/33569](#) and [H02M 3/337](#). Groups [H02M 3/33569](#), [H02M 3/337](#) and [H02M 3/33573](#) should be considered in order to perform a complete search.

- C H02M 3/337 in push-pull configuration {(H02M 3/33576 takes precedence; with self-oscillating arrangements H02M 3/3382-and, H02M 3/3385)}

WARNING

Group H02M 3/337 is impacted by reclassification into groups H02M 3/33571, H02M 3/33573, H02M 3/01 and H02M 3/015. All groups listed in this Warning should be considered in order to perform a complete search.

- | | | |
|---|-----------|--|
| U | H02M 5/00 | Conversion of ac power input into ac power output, e.g. for change of voltage, for change of frequency, for change of number of phases |
|---|-----------|--|

- U H02M 5/02 • without intermediate conversion into dc
 - U H02M 5/04 • • by static converters (controlling transformers, reactors or choke coils, e.g. by tap changing [H02P 13/00](#))
 - U H02M 5/22 • • • using discharge tubes with control electrode or semiconductor devices with control electrode
 - U H02M 5/275 • • • • using devices of a triode or transistor type requiring continuous application of a control signal
 - U H02M 5/293 • • • • • using semiconductor devices only
 - D H02M 2005/2932 • • • • • {with automatic control of output voltage, current or power}
 <administratively transferred to [H02M 5/2932](#) ADD>
 - N H02M 5/2932 • • • • • {with automatic control of output voltage, current or power}
 - D H02M 2005/2935 • • • • • {using reverse phase control, i.e. turn-on of switch in series with load at zero crossing of input voltage, turn-off before next zero crossing}
 <administratively transferred to [H02M 5/2935](#) ADD>
 - N H02M 5/2935 • • • • • {using reverse phase control, i.e. turn-on of switches in series with load at zero crossing of input voltage, turn-off before next zero crossing}
 - D H02M 2005/2937 • • • • • {using whole cycle control, i.e. switching an integer number of whole (half) cycles of the ac input voltage}
 <administratively transferred to [H02M 5/2937](#) ADD>
 - N H02M 5/2937 • • • • • {using whole cycle control, i.e. switching an integer number of whole or half cycles of the AC input voltage}
 - U H02M 7/00 Conversion of ac power input into dc power output; Conversion of dc power input into ac power output**
 - M H02M 7/003 • {Constructional details, e.g. physical layout, assembly, wiring; **or** busbar connections}
 - U H02M 7/02 • Conversion of ac power input into dc power output without possibility of reversal
 - C H02M 7/04 • • by static converters
- WARNING**
 Group [H02M 7/04](#) is impacted by reclassification into group [H02M 7/05](#). Groups [H02M 7/04](#) and [H02M 7/05](#) should be considered in order to perform a complete search.
- U H02M 7/046 • • • {using discharge tubes}
 - N H02M 7/05 • • • {Capacitor coupled rectifiers}
- WARNING**
 Group [H02M 7/05](#) is incomplete pending reclassification of documents from group [H02M 7/04](#). Groups [H02M 7/04](#) and [H02M 7/05](#) should be considered in order to perform a complete search.
- U H02M 7/12 • • • using discharge tubes with control electrode or semiconductor devices with control electrode
 - U H02M 7/21 • • • • using devices of a triode or transistor type requiring continuous application of a control signal
 - U H02M 7/217 • • • • • using semiconductor devices only
 - U H02M 7/219 • • • • • in a bridge configuration

- D H02M 2007/2195 {the switches being synchronously commutated at the same frequency of the AC input voltage}
<administratively transferred to [H02M 7/2195](#) INV>
- N H02M 7/2195 {the switches being synchronously commutated at the same frequency of the AC input voltage}
- U H02M 7/42 . Conversion of dc power input into ac power output without possibility of reversal
- U H02M 7/44 . . by static converters
- U H02M 7/48 . . . using discharge tubes with control electrode or semiconductor devices with control electrode
- D H02M 2007/4803 . . . {with means for reducing dc component from AC output voltage}
<administratively transferred to [H02M 7/4803](#) INV>
- N H02M 7/4803 . . . {with means for reducing DC component from AC output voltage}
- D H02M 2007/4811 . . . {having an auxiliary actively switched resonant commutation circuit connected to an intermediate dc voltage or between two push-pull branches}
<administratively transferred to [H02M 7/4811](#) INV>
- N H02M 7/4811 . . . {having auxiliary actively switched resonant commutation circuits connected to intermediate DC voltage or between two push-pull branches}
- D H02M 2007/4815 . . . {Resonant converters (H02M 2007/4811 and H02M 7/4826 take precedence)}
<administratively transferred to [H02M 7/4815](#)>
- N H02M 7/4815 . . . {Resonant converters ([H02M 7/4811](#) and [H02M 7/4826](#) take precedence)}
- D H02M 2007/4818 . . . {with means for adaptation of resonance frequency, e.g. by modification of capacitance or inductance of resonance circuit}
<administratively transferred to [H02M 7/4818](#)>
- N H02M 7/4818 . . . {with means for adaptation of resonance frequency, e.g. by modification of capacitance or inductance of resonance circuits}
- D H02M 2007/4822 . . . {arranged for operation in parallel}
<administratively transferred to [H02M 7/493](#)>
- C H02M 7/483 . . . Converters with outputs that each can have more than two voltages levels
- WARNING
Group [H02M 7/483](#) is impacted by reclassification into group [H02M 7/4833](#).
Groups [H02M 7/483](#) and [H02M 7/4833](#) should be considered in order to perform a complete search.
- N H02M 7/4833 . . . {Capacitor voltage balancing}
- WARNING
Group [H02M 7/4833](#) is incomplete pending reclassification of documents from group [H02M 7/483](#).
Groups [H02M 7/483](#) and [H02M 7/4833](#) should be considered in order to perform a complete search.
- D H02M 2007/4835 . . . {comprising a plurality of cells, each including a switchable capacitor, the capacitors having a nominal charge voltage which corresponds to a given fraction of the input voltage, the capacitors being selectively connected in series to determine the instantaneous output voltage}
<administratively transferred to [H02M 7/4835](#) INV>

- Q H02M 7/4835 {comprising two or more cells, each including a switchable capacitor, the capacitors having a nominal charge voltage which corresponds to a given fraction of the input voltage, and the capacitors being selectively connected in series to determine the instantaneous output voltage}
- WARNING
Group [H02M 7/4835](#) is impacted by reclassification into group [H02M 7/4837](#).
Groups [H02M 7/4835](#) and [H02M 7/4837](#) should be considered in order to perform a complete search.
- N H02M 7/4837 {Flying capacitor converters}
- WARNING
Group [H02M 7/4837](#) is incomplete pending reclassification of documents from group [H02M 7/4835](#).
Groups [H02M 7/4835](#) and [H02M 7/4837](#) should be considered in order to perform a complete search.
- C H02M 7/493 the static converters being arranged for operation in parallel
- WARNING
Group [H02M 7/493](#) is impacted by reclassification into group [H02M 1/0043](#).
Groups [H02M 7/493](#) and [H02M 1/0043](#) should be considered in order to perform a complete search.
- U H02M 7/53 using devices of a triode or transistor type requiring continuous application of a control signal {([H02M 7/4807](#), [H02M 7/493](#) and [H02M 7/4826](#) take precedence)}
- U H02M 7/537 using semiconductor devices only, e.g. single switched pulse inverters
- U H02M 7/5387 in a bridge configuration
- U H02M 7/53871 {with automatic control of output voltage or current}
- U H02M 7/53875 {with analogue control of three-phase output}
- D H02M 2007/53876 {based on synthesising a desired voltage vector via the selection of appropriate fundamental voltage vectors, and corresponding dwelling times}
- <administratively transferred to [H02M 7/53876](#) INV>
- N H02M 7/53876 {based on synthesising a desired voltage vector via the selection of appropriate fundamental voltage vectors, and corresponding dwelling times}
- D H02M 2007/53878 {by time shifting switching signals of one diagonal pair of the bridge with respect to the other diagonal pair}
- <administratively transferred to [H02M 7/53878](#) INV>
- N H02M 7/53878 {by time shifting switching signals of one diagonal pair of the bridge with respect to the other diagonal pair}

Project: MP0473 (H03K)

- U H03K 3/00 **Circuits for generating electric pulses; Monostable, bistable or multistable circuits ([H03K 4/00](#) takes precedence; for digital function generators in computers [G06F 1/02](#))**
- U H03K 3/02 . Generators characterised by the type of circuit or by the means used for producing pulses ([H03K 3/64](#) - [H03K 3/84](#) take precedence)

- M H03K 3/53
- by the use of an energy-accumulating element discharged through the load by a switching device controlled by an external signal and not incorporating positive feedback ([H03K 3/335](#) takes precedence ~~{; working of metal by electro-erosion with spark discharge B23H; for internal combustion engine ignition systems F02P 3/08; electronic lighters F23Q 2/285, F23Q 3/00; flash lamps H05B 41/30}~~)
- U H03K 4/00**
- Generating pulses having essentially a finite slope or stepped portions**
- U H03K 4/06
- having triangular shape
- U H03K 4/08
- having sawtooth shape
- U H03K 4/10
- using as active elements vacuum tubes only
- U H03K 4/12
- in which a sawtooth voltage is produced across a capacitor
- M H03K 4/14
- using two tubes so coupled that the input of each one is derived from the output of the other, e.g. multivibrator ~~{(multivibrator generating other pulses H03K 3/00)}~~
- M H03K 4/16
- using a single tube with positive feedback through transformer, e.g. blocking oscillator ~~{(blocking oscillators generating other pulses H03K 3/00)}~~
- U H03K 4/48
- using as active elements semiconductor devices ([H03K 4/787](#) - [H03K 4/84](#) take precedence)
- U H03K 4/50
- in which a sawtooth voltage is produced across a capacitor
- M H03K 4/52
- using two semiconductor devices so coupled that the input of each one is derived from the output of the other, e.g. multivibrator ~~{(multivibrators generating other pulses H03K 3/00)}~~
- M H03K 4/54
- using a single semiconductor device with positive feedback through a transformer, e.g. blocking oscillator ~~{(blocking oscillators generating other pulses H03K 3/00)}~~
- U H03K 5/00**
- Manipulating of pulses not covered by one of the other main groups of this subclass (circuits with regenerative action [H03K 3/00](#), [H03K 4/00](#); by the use of non-linear magnetic or dielectric devices [H03K 3/45](#))**
- NOTE
- In this group, the input signals are of the pulse type.
- M H03K 5/13
- Arrangements having a single output and transforming input signals into pulses delivered at desired time intervals ~~{(measuring time intervals using electronic timing, e.g. counting means G04F 1/005)}~~
- M H03K 5/153
- Arrangements in which a pulse is delivered at the instant when a predetermined characteristic of an input signal is present or at a fixed time interval after this instant (switching at zero crossing [H03K 17/13](#) ~~{; measuring characteristics of individual pulses G01R 29/02}~~)
- U H03K 6/00**
- Manipulating pulses having a finite slope and not covered by one of the other main groups of this subclass (circuits with regenerative action [H03K 4/00](#))**
- M H03K 6/02
- Amplifying pulses ~~{(generation of a sawtooth current through an inductor by amplification H03K 4/28, H03K 4/39, H03K 4/43, H03K 4/62, H03K 4/69)}~~
- U H03K 17/00**
- Electronic switching or gating, i.e. not by contact-making and -breaking (gated amplifiers [H03F 3/72](#); switching arrangements for exchange systems using static devices [H04Q 3/52](#))**
- M H03K 17/30
- Modifications for providing a predetermined threshold before switching (shaping pulses by thresholding [H03K 5/08](#) ~~{; for logic circuits H03K 19/0021}~~)
- U H03K 17/51
- characterised by the components used ([H03K 17/04](#) - [H03K 17/30](#), [H03K 17/94](#) take precedence)

- U H03K 17/56
 - • by the use, as active elements, of semiconductor devices (using diodes [H03K 17/74](#))
- U H03K 17/60
 - • • the devices being bipolar transistors (bipolar transistors having four or more electrodes [H03K 17/72](#))
- M H03K 17/64
 - • • having inductive loads ~~{{driving circuits for electromagnets making use of a switching regulator provisionally in H01H 47/325}}~~
- U H03K 17/94
 - characterised by the way in which the control signals are generated
- M H03K 17/945
 - • Proximity switches ([H03K 17/96](#) takes precedence ~~{{; proximity fuzes F42G 13/00; detecting masses or objects, e.g. by using a magnetic or optical detector G01V, e.g. G01V 3/00, G01V 8/10}}~~)
- U H03K 19/00**

Logic circuits, i.e. having at least two inputs acting on one output (circuits for computer systems using fuzzy logic [G06N 7/02](#)); Inverting circuits
- U H03K 19/02
 - using specified components (~~{{~~[H03K 19/0005](#) - [H03K 19/0021](#)~~}~~, [H03K 19/003](#) - [H03K 19/0175](#) take precedence)
- U H03K 19/08
 - • using semiconductor devices ([H03K 19/173](#) takes precedence; wherein the semiconductor devices are only diode rectifiers [H03K 19/12](#))
- M H03K 19/082
 - • • using bipolar transistors ~~{{(in combination with field-effect transistor H03K 19/094)}}~~
- M H03K 19/12
 - • using diode rectifiers ~~{{(diode-transistor logic H03K 19/084)}}~~
- M H03K 19/14
 - • using opto-electronic devices, i.e. light-emitting and photoelectric devices electrically- or optically-coupled (optical logic elements [per se G02F 3/00](#))
- M H03K 21/00**

Details of pulse counters or frequency dividers ~~{{(number-of-one counters G06F 7/607)}}~~
- U H03K 23/00**

Pulse counters comprising counting chains; Frequency dividers comprising counting chains ([H03K 29/00](#) takes precedence)
- M H03K 23/80
 - using semiconductor devices having only two electrodes, e.g. tunnel diode, multi-layer diode ~~{{, e.g. with a negative resistance characteristic (unijunction transistors H03K 23/84)}}~~

Project: RP0599 (H05H)**C H05H 1/00** **Generating plasma; Handling plasma****WARNING**

Group H05H 1/00 is impacted by reclassification into group H05H 1/01. Groups H05H 1/00 and H05H 1/01 should be considered in order to perform a complete search.

- M H05H 1/0006
 - {Investigating plasma, e.g. ~~degree of ionisation (electron temperature)~~ *measuring the degree of ionisation or the electron temperature*}
- M H05H 1/0012
 - • {~~by using radiation~~ *using electromagnetic or particle radiation, e.g. interferometry*}
- M H05H 1/0037
 - • • {by spectrometry ~~(see G01N 3/00)~~}
- M H05H 1/005
 - • • {by using X-rays or alpha rays ~~(see G01N 23/00)~~}
- M H05H 1/0056
 - • • {by using neutrons ~~(see G01N 23/00)~~}
- M H05H 1/0062
 - • • {by using microwaves ~~(see G01N 23/223)~~}
- M H05H 1/0068
 - • {by thermal means ~~(see G01N 25/00)~~}
- M H05H 1/0081
 - • {by electric means ~~(see G01N 27/00, G01R)~~}
- M H05H 1/0087
 - • {by magnetic means ~~(see G01N 27/00, G01R)~~}
- M H05H 1/0093
 - • {by acoustic *means*, e.g. ultrasonic ~~means (see G01N 29/02)~~}

- N H05H 1/01
- {Handling plasma, e.g. of subatomic particles}
- WARNING
Group [H05H 1/01](#) is incomplete pending reclassification of documents from group [H05H 1/00](#).
Groups [H05H 1/00](#) and [H05H 1/01](#) should be considered in order to perform a complete search.
- C H05H 1/24
- Generating plasma {(gas-filled discharge reactors [H01J 37/32](#); nuclear fusion reactors [G21B 1/00](#); ohmic heating [H05H 1/20](#); injection heating [H05H 1/22](#); gas-filled discharge reactors [H01J 37/32](#))}
- WARNING
Group [H05H 1/24](#) is impacted by reclassification into groups [H05H 1/247](#) and [H05H 1/4697](#).
Groups [H05H 1/24](#), [H05H 1/247](#) and [H05H 1/4697](#) should be considered in order to perform a complete search.
- C H05H 1/2406
- {Dielectric barrier discharges using dielectric barrier discharges, i.e. with a dielectric interposed between the electrodes}
- WARNING
Group [H05H 1/2406](#) is impacted by reclassification into groups [H05H 1/2439](#) and [H05H 1/2441](#).
Groups [H05H 1/2406](#), [H05H 1/2439](#) and [H05H 1/2441](#) should be considered in order to perform a complete search.
- D H05H 2001/2412
- • {the dielectric being interposed between the electrodes}
- <administratively transferred to [H05H 1/2406](#) INV>
- D H05H 2001/2418
- • {the electrodes being embedded in the dielectric}
- <administratively transferred to [H05H 1/2418](#) INV>
- N H05H 1/2418
- • {the electrodes being embedded in the dielectric}
- D H05H 2001/2425
- • {the electrodes being flush with the dielectric}
- <administratively transferred to [H05H 1/2425](#) INV>
- N H05H 1/2425
- • {the electrodes being flush with the dielectric}
- D H05H 2001/2431
- • {Cylindrical electrodes}
- <administratively transferred to [H05H 1/2431](#) INV>
- N H05H 1/2431
- • {using cylindrical electrodes, e.g. rotary drums}
- D H05H 2001/2437
- • {Multilayer systems}
- <administratively transferred to [H05H 1/2437](#) INV>
- N H05H 1/2437
- • {Multilayer systems}
- N H05H 1/2439
- • {Surface discharges, e.g. air flow control}
- WARNING
Group [H05H 1/2439](#) is incomplete pending reclassification of documents from group [H05H 1/2406](#).
Groups [H05H 1/2406](#) and [H05H 1/2439](#) should be considered in order to perform a complete search.
- N H05H 1/2441
- • {characterised by the physical-chemical properties of the dielectric, e.g. porous dielectric}
- WARNING
Group [H05H 1/2441](#) is incomplete pending reclassification of documents from group [H05H 1/2406](#).

Groups [H05H 1/2406](#) and [H05H 1/2441](#) should be considered in order to perform a complete search.

- D H05H 2001/2443 . . . {Flow through, i.e. the plasma fluid flowing in a dielectric tube}
<administratively transferred to [H05H 1/2443](#) INV>
- N H05H 1/2443 . . . {the plasma fluid flowing through a dielectric tube}
- D H05H 2001/245 . . . {Internal electrodes}
<administratively transferred to [H05H 1/245](#) INV>
- N H05H 1/245 . . . {the plasma being activated using internal electrodes}
- D H05H 2001/2456 . . . {External electrodes}
<administratively transferred to [H05H 1/246](#) INV>
- N H05H 1/246 . . . {the plasma being activated using external electrodes ([H05H 1/245](#) takes precedence)}
- D H05H 2001/2462 . . . {Ring electrodes}
<administratively transferred to [H05H 1/2465](#) INV>
- N H05H 1/2465 . . . {the plasma being activated by inductive coupling, e.g. using coiled electrodes}
- D H05H 2001/2468 . . . {Spiral electrodes}
<administratively transferred to [H05H 1/2465](#) INV>
- N H05H 1/247 . . {using discharges in liquid media}

WARNING

Group [H05H 1/247](#) is incomplete pending reclassification of documents from group [H05H 1/24](#).
Groups [H05H 1/24](#) and [H05H 1/247](#) should be considered in order to perform a complete search.

- M H05H 1/2475 . . {~~Acoustic pressure discharge~~ using acoustic pressure discharges}
- D H05H 2001/2481 . . . {Piezoelectric actuators}
<administratively transferred to [H05H 1/2481](#) INV>
- N H05H 1/2481 . . . {the plasma being activated using piezoelectric actuators}
- D H05H 2001/2487 . . . {Mechanical actuators}
<administratively transferred to [H05H 1/2487](#) INV>
- N H05H 1/2487 . . . {the plasma being activated using mechanical actuators}
- D H05H 2001/2493 . . . {Horns}
<administratively transferred to [H05H 1/2493](#) INV>
- N H05H 1/2493 . . . {the plasma being activated using horns}
- M H05H 1/26 . . Plasma torches-~~{(metal working with constricted arc B23K 10/00, B23K 10/02; metal spraying B05B 7/18, B05B 7/20)}~~
- U H05H 1/32 . . . using an arc ([H05H 1/28](#) takes precedence)
- C H05H 1/34 . . . Details, e.g. electrodes, nozzles-~~{(cf. B23K 9/24)}~~

WARNING

Group [H05H 1/34](#) is impacted by reclassification into groups [H05H 1/3423](#) and [H05H 1/3425](#).
Groups [H05H 1/34](#), [H05H 1/3423](#) and [H05H 1/3425](#) should be considered in order to perform a complete search.

- M H05H 1/3405 {~~Arc stabilising or constricting arrangements~~*Arrangements for stabilising or constricting the arc*, e.g. by an additional gas flow ~~(by externally applied magnetic field H05H 1/40; by using powders or liquids H05H 1/42; using coaxial protecting fluid H05H 1/341)~~}
- M H05H 1/341 {~~using coaxial protecting fluid~~*Arrangements for providing coaxial protecting fluids*}~~{arc stabilising or constricting arrangements H05H 1/3405; introducing materials into the plasma H05H 1/42}~~
- D H05H 2001/3415 {indexing scheme associated with H05H 1/34}
<administratively transferred to [H05H 1/34](#) INV>
- N H05H 1/3421 {Transferred arc or pilot arc mode}
- D H05H 2001/3421 {transferred arc mode}
<administratively transferred to [H05H 1/3421](#) INV>
- N H05H 1/3423 {Connecting means, e.g. electrical connecting means or fluid connections}
WARNING
Group [H05H 1/3423](#) is incomplete pending reclassification of documents from group [H05H 1/34](#).
Groups [H05H 1/34](#) and [H05H 1/3423](#) should be considered in order to perform a complete search.
- N H05H 1/3425 {Melting or consuming electrodes}
WARNING
Group [H05H 1/3425](#) is incomplete pending reclassification of documents from group [H05H 1/34](#).
Groups [H05H 1/34](#) and [H05H 1/3425](#) should be considered in order to perform a complete search.
- D H05H 2001/3426 {pilot arc}
<administratively transferred to [H05H 1/3421](#) INV>
- N H05H 1/3431 {Coaxial cylindrical electrodes}
- D H05H 2001/3431 {coaxial cylindrical electrodes}
<administratively transferred to [H05H 1/3431](#) INV>
- N H05H 1/3436 {Hollow cathodes with internal coolant flow}
- D H05H 2001/3436 {hollow cathode with internal coolant flow}
<administratively transferred to [H05H 1/3436](#) INV>
- N H05H 1/3442 {Cathodes with inserted tip}
- D H05H 2001/3442 {cathode with inserted tip}
<administratively transferred to [H05H 1/3442](#) INV>
- N H05H 1/3447 {Rod-like cathodes}
- D H05H 2001/3447 {rod-like cathode}
<administratively transferred to [H05H 1/3447](#) INV>
- N H05H 1/3452 {Supplementary electrodes between cathode and anode, e.g. cascade}
- D H05H 2001/3452 {supplementary electrodes between cathode and anode, e.g. cascade}
<administratively transferred to [H05H 1/3452](#) INV>
- N H05H 1/3457 {Nozzle protection devices}
- D H05H 2001/3457 {nozzle protection devices}
<administratively transferred to [H05H 1/3457](#) INV>

N	H05H 1/3463	. . . . . {<i>Oblique nozzles</i> }
D	H05H 2001/3463	. . . . . {oblique nozzle }
		<administratively transferred to H05H 1/3463 INV>
N	H05H 1/3468	. . . . . {<i>Vortex generators</i> }
D	H05H 2001/3468	. . . . . {vortex generator }
		<administratively transferred to H05H 1/3468 INV>
N	H05H 1/3473	. . . . . {<i>Safety means</i> }
D	H05H 2001/3473	. . . . . {safety means }
		<administratively transferred to H05H 1/3473 INV>
N	H05H 1/3478	. . . . . {<i>Geometrical details</i> }
D	H05H 2001/3478	. . . . . {geometrical details }
		<administratively transferred to H05H 1/3478 INV>
N	H05H 1/3484	. . . . . {<i>Convergent-divergent nozzles</i> }
D	H05H 2001/3484	. . . . . {convergent/divergent nozzle }
		<administratively transferred to H05H 1/3484 INV>
N	H05H 1/3489	. . . . . {<i>Means for contact starting</i> }
D	H05H 2001/3489	. . . . . {contact starting }
		<administratively transferred to H05H 1/3489 INV>
N	H05H 1/3494	. . . . . {<i>Means for controlling discharge parameters</i> }
D	H05H 2001/3494	. . . . . {discharge parameter control }
		<administratively transferred to H05H 1/3494 INV>
U	H05H 1/46	. . using applied electromagnetic fields, e.g. high frequency or microwave energy (H05H 1/26 takes precedence)
D	H05H 2001/4607	. . . { Microwave discharges }
		<administratively transferred to H05H 1/461 INV>
N	H05H 1/461	. . . { <i>Microwave discharges</i> }
D	H05H 2001/4615	. . . { Surface waves }
		<administratively transferred to H05H 1/4615 INV>
N	H05H 1/4615	. . . . {<i>using surface waves</i> }
D	H05H 2001/4622	. . . . {Waveguides }
		<administratively transferred to H05H 1/4622 INV>
N	H05H 1/4622	. . . . {<i>using waveguides</i> }
D	H05H 2001/463	. . . . {Antennas or applicators }
		<administratively transferred to H05H 1/463 INV>
N	H05H 1/463	. . . . {<i>using antennas or applicators</i> }
D	H05H 2001/4637	. . . . {Cables }
		<administratively transferred to H05H 1/4637 INV>
N	H05H 1/4637	. . . . {<i>using cables</i> }
D	H05H 2001/4645	. . . { Radiofrequency discharges }
		<administratively transferred to H05H 1/4645 INV>
N	H05H 1/4645	. . . { <i>Radiofrequency discharges</i> }
D	H05H 2001/4652	. . . . {Inductively coupled }
		<administratively transferred to H05H 1/4652 INV>
N	H05H 1/4652	. . . . {<i>using inductive coupling means, e.g. coils</i> }

- N H05H 1/466 . . . {using capacitive coupling means, e.g. electrodes}
- D H05H 2001/466 {Electrodes}
<administratively transferred to [H05H 1/466](#) INV>
- D H05H 2001/4667 {Coiled antennas}
<administratively transferred to [H05H 1/4652](#) INV>
- D H05H 2001/4675 {Capacitively coupled}
<administratively transferred to [H05H 1/466](#) INV>
- D H05H 2001/4682 {Associated power generators, e. G. Circuits, matching networks}
<administratively transferred to [H05H 2242/20](#) ADD>
- D H05H 2001/469 . . . {Flow through, i.e. the plasma fluid flowing in a non-dielectric vessel}
<administratively transferred to [H05H 1/46](#) INV>
- D H05H 2001/4692 {dielectric barrier discharge (H05H 1/2406 takes precedence)}
<administratively transferred to [H05H 1/2406](#) INV>
- D H05H 2001/4695 {Arc discharge}
<administratively transferred to [H05H 1/48](#) INV>
- N H05H 1/4697 . . {using glow discharges}
- WARNING
Group [H05H 1/4697](#) is incomplete pending reclassification of documents from group [H05H 1/24](#).
Groups [H05H 1/24](#) and [H05H 1/4697](#) should be considered in order to perform a complete search.
- D H05H 2001/4697 {Glow discharge}
<administratively transferred to [H05H 1/4697](#) INV>
- N H05H 1/47 . . {using corona discharges}
- N H05H 1/471 . . . {Pointed electrodes}
- N H05H 1/473 . . . {Cylindrical electrodes, e.g. rotary drums}
- N H05H 1/475 . . . {Filamentary electrodes}
- N H05H 1/477 . . . {Segmented electrodes}
- C H05H 1/48 . . using an arc ([H05H 1/26](#) takes precedence)
- WARNING
Group [H05H 1/48](#) is impacted by reclassification into groups [H05H 1/481](#), [H05H 1/482](#), [H05H 1/484](#), [H05H 1/486](#) and [H05H 1/488](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- D H05H 2001/481 . . . {Corona discharges}
<administratively transferred to [H05H 1/47](#) INV>
- N H05H 1/481 . . . {Hollow cathodes}
- WARNING
Group [H05H 1/481](#) is incomplete pending reclassification of documents from group [H05H 1/48](#).
Groups [H05H 1/48](#) and [H05H 1/481](#) should be considered in order to perform a complete search.

- N H05H 1/482 · · · {Arrangements to provide gliding arc discharges}
 WARNING
 Group [H05H 1/482](#) is incomplete pending reclassification of documents from group [H05H 1/48](#).
 Groups [H05H 1/48](#) and [H05H 1/482](#) should be considered in order to perform a complete search.
- D H05H 2001/483 · · · · {Pointed electrodes}
 <administratively transferred to [H05H 1/471](#) INV>
- N H05H 1/484 · · · {Arrangements to provide plasma curtains or plasma showers}
 WARNING
 Group [H05H 1/484](#) is incomplete pending reclassification of documents from group [H05H 1/48](#).
 Groups [H05H 1/48](#) and [H05H 1/484](#) should be considered in order to perform a complete search.
- D H05H 2001/485 · · · · {Cylindrical electrodes, e.g. Rotary drums electrodes}
 <administratively transferred to [H05H 1/473](#) INV>
- N H05H 1/486 · · · {Arrangements to provide capillary discharges}
 WARNING
 Group [H05H 1/486](#) is incomplete pending reclassification of documents from group [H05H 1/48](#).
 Groups [H05H 1/48](#) and [H05H 1/486](#) should be considered in order to perform a complete search.
- D H05H 2001/486 · · · · {Filamentary electrodes}
 <administratively transferred to [H05H 1/475](#) INV>
- N H05H 1/488 · · · {Liquid electrodes}
 WARNING
 Group [H05H 1/488](#) is incomplete pending reclassification of documents from group [H05H 1/48](#).
 Groups [H05H 1/48](#) and [H05H 1/488](#) should be considered in order to perform a complete search.
- D H05H 2001/488 · · · · {Segmented electrodes}
 <administratively transferred to [H05H 1/477](#) INV>
- U H05H 13/00 **Magnetic resonance accelerators; Cyclotrons {(strophotrons, turbine tubes [H01J 25/62](#))}**
- M H05H 13/10 · Accelerators comprising one or more linear accelerating sections and bending magnets or the like to return the charged particles in a trajectory parallel to the first accelerating section, e.g. microtrons *{or rhodotrons}*
- M H05H 15/00 **Methods or devices for acceleration of charged particles not otherwise provided for {, e.g. wakefield accelerators}**
- M H05H 2240/00 **Test Testing**
- U H05H 2242/00 **Auxiliary systems**
- U H05H 2242/10 · Cooling arrangements
- D H05H 2242/1005 · · Power supply other than for plasma torches
 <administratively transferred to [H05H 2242/20](#) ADD>

- Q H05H 2242/20
- Power circuits
- WARNING
Group [H05H 2242/20](#) is impacted by reclassification into groups [H05H 2242/22](#), [H05H 2242/24](#) and [H05H 2242/26](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N H05H 2242/22
- • DC, AC or pulsed generators
- WARNING
Group [H05H 2242/22](#) is incomplete pending reclassification of documents from group [H05H 2242/20](#).
Groups [H05H 2242/20](#) and [H05H 2242/22](#) should be considered in order to perform a complete search.
- N H05H 2242/24
- • Radiofrequency or microwave generators
- WARNING
Group [H05H 2242/24](#) is incomplete pending reclassification of documents from group [H05H 2242/20](#).
Groups [H05H 2242/20](#) and [H05H 2242/24](#) should be considered in order to perform a complete search.
- N H05H 2242/26
- • Matching networks
- WARNING
Group [H05H 2242/26](#) is incomplete pending reclassification of documents from group [H05H 2242/20](#).
Groups [H05H 2242/20](#) and [H05H 2242/26](#) should be considered in order to perform a complete search.
- T H05H 2245/00 **testApplications of plasma devices**
- N H05H 2245/10
- Treatment of gases
- D H05H 2245/104
- spiral electrodes
- <administratively transferred to [H05H 1/4652](#) INV>
- D H05H 2245/12
- Applications
- <administratively transferred to [H05H 2245/00](#) ADD>
- D H05H 2245/121
- • treatment of exhaust gas, e.g. Ambient air, ozonizers
- <administratively transferred to [H05H 2245/15](#) ADD>
- D H05H 2245/1215
- • • Exhaust gas
- <administratively transferred to [H05H 2245/17](#) ADD>
- D H05H 2245/122
- • medical applications {, e.g. plasma scalpels, blades, bistouri}
- <administratively transferred to [H05H 2245/30](#) ADD>
- D H05H 2245/1225
- • • Sterilization of objects
- <administratively transferred to [H05H 2245/36](#) ADD>
- D H05H 2245/123
- • surface treatments
- <administratively transferred to [H05H 2245/40](#) ADD>
- D H05H 2245/1235
- • • coating of large volume items
- <administratively transferred to [H05H 2245/42](#) ADD>
- D H05H 2245/124
- • production of nanostructures
- <administratively transferred to [H05H 2245/50](#) ADD>

- D H05H 2245/125
- portable devices
<administratively transferred to [H05H 2245/60](#) ADD>
- N H05H 2245/15
- Ambient air; Ozonisers
- N H05H 2245/17
- Exhaust gases
- N H05H 2245/20
- Treatment of liquids
- Q H05H 2245/30
- Medical applications
- WARNING**
Group [H05H 2245/30](#) is impacted by reclassification into groups [H05H 2245/32](#) and [H05H 2245/34](#).
Groups [H05H 2245/30](#), [H05H 2245/32](#) and [H05H 2245/34](#) should be considered in order to perform a complete search.
- N H05H 2245/32
- Surgery, e.g. scalpels, blades or bistoury; Treatments inside the body
- WARNING**
Group [H05H 2245/32](#) is incomplete pending reclassification of documents from group [H05H 2245/30](#).
Groups [H05H 2245/30](#) and [H05H 2245/32](#) should be considered in order to perform a complete search.
- N H05H 2245/34
- Skin treatments, e.g. disinfection or wound treatment
- WARNING**
Group [H05H 2245/34](#) is incomplete pending reclassification of documents from group [H05H 2245/30](#).
Groups [H05H 2245/30](#) and [H05H 2245/34](#) should be considered in order to perform a complete search.
- N H05H 2245/36
- Sterilisation of objects, liquids, volumes or surfaces
- N H05H 2245/40
- Surface treatments
- N H05H 2245/42
- Coating or etching of large items
- N H05H 2245/50
- Production of nanostructures
- N H05H 2245/60
- Portable devices
- N H05H 2245/70
- Automotive applications, e.g. engines
- N H05H 2245/80
- Burners or furnaces for heat generation, for fuel combustion or for incineration of wastes
- M H05H 2277/00 Applications of particle accelerators**
- M H05H 2277/13
- **High-energy applications, e.g. fusion** **Nuclear physics, e.g. spallation sources, accelerator driven systems, search or generation of exotic elements**
- U H05H 2277/14
- Portable devices
- M H05H 2277/1405
- Detection systems, **e.g. for safety**

Project: RP0241 (Y10T)

- U Y10T 24/00 Buckles, buttons, clasps, etc.**
- U Y10T 24/45
- Separable-fastener or required component thereof [e.g., projection and cavity to complete interlock]
- U Y10T 24/45225
- including member having distinct formations and mating member selectively interlocking therewith

- F Y10T 24/45272
(Frozen) . . . Projection passes through cavity then moves toward noninserted portion of its member to complete interlock [e.g., snap hook]
- WARNING**
Groups Y10T 24/45272 - Y10T 24/45455 are no longer used for the classification of documents as of May 1, 2021.
The content of this group is being reclassified into groups F16B 45/00, F16B 45/002, F16B 45/005, F16B 45/008, F16B 45/012, F16B 45/015, F16B 45/02, F16B 45/021, F16B 45/022, F16B 45/023, F16B 45/024, F16B 45/026, F16B 45/027, F16B 45/028, F16B 45/029, F16B 45/031, F16B 45/032, F16B 45/033, F16B 45/034, F16B 45/035, F16B 45/036, F16B 45/037, F16B 45/04, F16B 45/043, F16B 45/045, F16B 45/047, F16B 45/049, F16B 45/051, F16B 45/053, F16B 45/055, F16B 45/057, F16B 45/059 and F16B 45/06.
All groups listed in this Warning should be considered in order to perform a complete search.
- F Y10T 24/45277
(Frozen) . . . Entire projection member forms loop or ring when interlocked
- F Y10T 24/45283
(Frozen) . . . Includes slidable gate closing entrance throat
- F Y10T 24/45288
(Frozen) . . . Hook type projection member
- F Y10T 24/45293
(Frozen) . . . Plural hooks entering opposite sides of same cavity
- F Y10T 24/45298
(Frozen) . . . Hooks formed solely from wire
- F Y10T 24/45304
(Frozen) . . . Noninserted portion of projection member includes movably connected gate for closing access throat
- F Y10T 24/45309
(Frozen) . . . Threaded gate
- F Y10T 24/45314
(Frozen) . . . Revolvably mounted disc shaped gate
- F Y10T 24/45319
(Frozen) . . . Pivotaly connected gate
- F Y10T 24/45325
(Frozen) . . . Gate swings transversely to plane of hook
- F Y10T 24/4533
(Frozen) . . . Gate also slides relative to pivot
- F Y10T 24/45335
(Frozen) . . . having means biasing gate about pivot
- F Y10T 24/4534
(Frozen) . . . and position locking-means for gate
- F Y10T 24/45346
(Frozen) . . . Includes distinct biasing spring
- F Y10T 24/45351
(Frozen) . . . Coil type spring
- F Y10T 24/45356
(Frozen) . . . Coiled about pivotal axis of gate
- F Y10T 24/45361
(Frozen) . . . having position locking-means for gate
- F Y10T 24/45366
(Frozen) . . . Locking-means pivotaly connected

F	Y10T 24/45372 (Frozen)	• • • • • Locking-means slidably mounted
F	Y10T 24/45377 (Frozen)	• • • • • Gate closes when structure-to-be-secured is tensioned
F	Y10T 24/45382 (Frozen)	• • • • • Track or way guided gate
F	Y10T 24/45387 (Frozen)	• • • • • having means biasing gate
F	Y10T 24/45393 (Frozen)	• • • • • Guide of gate encircles shank
F	Y10T 24/45398 (Frozen)	• • • • • Cavity in shank forms track or way
F	Y10T 24/45403 (Frozen)	• • • • • with position locking-means for gate
F	Y10T 24/45408 (Frozen)	• • • • • Resilient, self-biased gate
F	Y10T 24/45414 (Frozen)	• • • • • with position locking-means for gate
F	Y10T 24/45419 (Frozen)	• • • • • Gate and hook formed from plastic
F	Y10T 24/45424 (Frozen)	• • • • • Gate and hook formed solely from wire
F	Y10T 24/45429 (Frozen)	• • • • • Gate and hook formed from single piece of sheet metal
F	Y10T 24/45435 (Frozen)	• • • • Projection pivotally attached to shank or mounting structure
F	Y10T 24/4544 (Frozen)	• • • • Projection slidably mounted to shank or mounting structure
F	Y10T 24/45445 (Frozen)	• • • • Projection self-biased towards shank or mounting structure
F	Y10T 24/4545 (Frozen)	• • • • and formed solely from wire
F	Y10T 24/45455 (Frozen)	• • • • Cooperating with relatively stationary wire gate
U	Y10T 24/47	• Strap-end-attaching devices
C	Y10T 24/4764	• • Ring-loop

WARNING

Group Y10T 24/4764 is impacted by reclassification into groups F16B 45/00, F16B 45/002, F16B 45/005, F16B 45/008, F16B 45/012, F16B 45/015, F16B 45/02, F16B 45/021, F16B 45/022, F16B 45/023, F16B 45/024, F16B 45/026, F16B 45/027, F16B 45/028, F16B 45/029, F16B 45/031, F16B 45/032, F16B 45/033, F16B 45/034, F16B 45/035, F16B 45/036, F16B 45/037, F16B 45/04, F16B 45/043, F16B 45/045, F16B 45/047, F16B 45/049, F16B 45/051, F16B 45/053, F16B 45/055, F16B 45/057, F16B 45/059 and F16B 45/06.

All groups listed in this Warning should be considered in order to perform a complete search.