

**IPC REORGANIZATION PROJECT FILES/
DOSSIERS DE PROJET DE RÉAMÉNAGEMENT DE LA CIB**

**MECHANICAL FIELD/
DOMAINE DE LA MÉCANIQUE**

A01B is a two-part subclass, the parts should be separated**1. Earth working**

A01B 49/00	Combined machines (auxiliary devices attached to machines of a different kind, e.g. harrows attached to ploughs, see the relevant groups for the machines)
A01B 41/00	Thinning machines
A01B 45/00	Machines for treating meadows or lawns
A01B 39/00	Other machines specially adapted for working soil on which crops are growing
A01B 47/00	Soil-working with electric potential applied between tools and soil
A01B 77/00	Machines for lifting and treating soil
A01B 7/00	Disc-like soil-working implements usable either as ploughs or as harrows, or the like
A01B 13/00	Ploughs or like machines for special purposes
A01B 17/00	Ploughs with special additional arrangements, e.g. means for putting manure under the soil, clod-crushers (A01B 49/00 takes precedence; ploughs for working subsoil A01B 13/08)
A01B 11/00	Ploughs with oscillating, digging or piercing tools
A01B 9/00	Ploughs with rotary driven tools (tilling implements with rotary driven tools A01B 33/00)
A01B 5/00	Ploughs with rolling non-driven tools, e.g. discs (with rotary driven tools A01B 9/00)
A01B 3/00	Ploughs with fixed plough-shares
A01B 15/00	Elements, tools, or details of ploughs
A01B 25/00	Harrows with special additional arrangements, e.g. means for distributing fertilisers; Harrows for special purposes (A01B 39/00 takes precedence)
A01B 33/00	Tilling implements with rotary driven tools
A01B 21/00	Harrows with rotary non-driven tools (tilling implements with rotary driven tools A01B 33/00)
A01B 19/00	Harrows with non-rotating tools
A01B 23/00	Elements, tools, or details of harrows
A01B 43/00	Gatherers for removing stones, undesirable roots or the like from the soil, e.g. tractor-drawn rakes
A01B 37/00	Devices for loosening soil compacted by wheels or the like
A01B 27/00	Clod-crushers
A01B 29/00	Rollers
A01B 31/00	Drags
A01B 35/00	Other machines for working soil (A01B 37/00, A01B 39/00, A01B 77/00 take precedence)
A01B 79/00	Methods for working soil (essentially requiring the use of particular machines, see the relevant groups for the machines)
A01B 1/00	Hand tools

Reasoning

General order: Combined - working on planted soil - specialised - convertible - ploughs (more specialised) - harrows (less specialised) - working of soil surface - residual machines - methods (residual to apparatus) - hand tools

2. Details in general

A01B 61/00	Devices for, or parts of, agricultural machines or implements for preventing overstrain
A01B 67/00	Devices for controlling the tractor motor by resistance of tools (preventing overstrain A01B 61/00)
A01B 71/00	Construction or arrangement of setting or adjusting mechanisms, of implement or tool drive or of power take-off; Means for protecting parts against dust, or the like; Adapting machine elements to or for agricultural purposes
A01B 63/00	Lifting or adjusting devices or arrangements for agricultural machines or implements
A01B 59/00	Devices specially adapted for connection between animals or tractors and agricultural machines or implements (A01B 63/00 takes precedence)
A01B 73/00	Means or arrangements to facilitate transportation of agricultural machines or implements, e.g. folding frames to reduce overall width (arrangements of lifting devices for soil working implements A01B 63/00)
A01B 69/00	Steering of agricultural machines or implements; Guiding agricultural machines or implements on a desired track
A01B 51/00	Undercarriages specially adapted for mounting-on various kinds of agricultural tools or apparatus
A01B 75/00	Carriers for supporting persons when working in the field, e.g. while thinning beet

Reasoning

Not an easy one - general order: Condition-responsive - power-driven and specialised - working elements - transportation and vehicle features

A01C 1/00	Apparatus, or methods of use thereof, for testing or treating seed, roots, or the like, prior to sowing or planting
A01C 11/00	Transplanting machines
A01C 13/00	Machines or apparatus for consolidating soil around plants
A01C 9/00	Potato planters
A01C 7/00	Sowing (arrangements for driving working parts A01C 19/00)
A01C 3/00	Treating manure; Manuring
A01C 21/00	Methods of fertilising
A01C 17/00	Fertilisers or seeders with centrifugal wheels
A01C 23/00	Distributing devices specially adapted for liquid manure or other fertilising liquid, including ammonia, e.g. transport tanks, sprinkling wagons
A01C 15/00	Fertiliser distributors (A01C 7/06 takes precedence; with centrifugal wheels A01C 17/00; arrangements for driving working parts A01C 19/00)
A01C 19/00	Arrangements for driving working parts of fertilisers or seeders
A01C 5/00	Making or covering furrows or holes for sowing, planting, or manuring

Reasoning

General order: Pre-treatment - planting - sowing - fertilising - distributors - details

ANNEX 1

A01D 44/00	Harvesting of underwater plants, e.g. harvesting of seaweed
A01D 27/00	Machines with both topping and lifting mechanisms
A01D 29/00	Harvesters for peanuts
A01D 25/00	Lifters for beet or like crops
A01D 21/00	Digging machines with potato-picking implements
A01D 19/00	Digging machines with centrifugal wheels, drums, or spinners
A01D 17/00	Digging machines with sieving and conveying mechanisms
A01D 15/00	Digging machines with sieve graters but without conveying mechanisms
A01D 13/00	Diggers, e.g. potato ploughs
A01D 31/00	Other digging harvesters
A01D 23/00	Topping machines
A01D 33/00	Accessories for digging harvesters
A01D 46/00	Picking of fruits, vegetables, hops, or the like; Devices for shaking trees or shrubs
A01D 51/00	Apparatus for gathering together crops spread on the soil, e.g. apples, beets, nuts, potatoes
A01D 45/00	Harvesting of standing crops (A01D 44/00 takes precedence)
A01D 41/00	Combines, i.e. harvesters or mowers combined with threshing devices
A01D 37/00	Reaper-binders (features relating to mowing only A01D 34/00, to binding only A01D 39/00; equipment thereon for binding harvested or mown produce, e.g. knotters, A01D 59/00)
A01D 39/00	Independent binders, e.g. for hay; Binders attachable to mowers (equipment thereon for binding harvested or mown produce, e.g. knotters, A01D 59/00)
A01D 43/00	Mowers combined with apparatus performing additional operations while mowing (A01D 37/00, A01D 39/00, A01D 41/00 take precedence)
A01D 42/00	Mowers convertible to apparatus for purposes other than mowing; Mowers capable of performing operations other than mowing (mowers combined with apparatus performing additional operations while mowing A01D 43/00)
A01D 34/00	Mowers (combined with apparatus performing additional operations while mowing A01D 37/00 to A01D 41/00, A01D 43/00; convertible to apparatus for purposes other than mowing or capable of performing operations other than mowing A01D 42/00); Mowing apparatus of harvesters
A01D 91/00	Methods for harvesting agricultural products (essentially requiring the use of particular machines, see the relevant groups for the machines)
A01D 47/00	Headers
A01D 63/00	Outside dividers
A01D 65/00	Grain-crop lifters
A01D 61/00	Elevators or conveyers for binders or combines
A01D 57/00	Delivering mechanisms for harvesters or mowers
A01D 69/00	Driving mechanisms or parts thereof for harvesters or mowers (driving mechanisms for the cutters of mowers or harvesters A01D 34/00)
A01D 67/00	Undercarriages or frames specially adapted for harvesters or mowers; Mechanisms for adjusting the frame (adjusting devices for the cutter-bar A01D 34/28); Platforms
A01D 59/00	Equipment for binding harvested or mown produce
A01D 75/00	Accessories for harvesters or mowers
A01D 76/00	Haymakers with tines that are stationary with respect to the machine during

	operation but that may be liftable for dumping
A01D 78/00	Haymakers with tines moving with respect to the machine
A01D 80/00	Parts or details of haymakers (parts or details specific for one type of machine, see the relevant groups for these machines)
A01D 82/00	Crop conditioners, i.e. machines for crushing or bruising stalks (mowers combined with means for crushing or bruising the mown crop A01D 43/10)
A01D 84/00	Haymakers not provided for in a single one of groups A01D 76/00 to A01D 82/00
A01D 90/00	Vehicles for carrying harvested crops with means for selfloading or unloading (combined with mowers A01D 43/06)
A01D 87/00	Loaders for hay or like field crops (combined with mowers A01D 43/06)
A01D 89/00	Pick-ups for loaders, chaff-cutters, balers, field-threshers, or the like
A01D 85/00	Arrangements for making or setting stacks
A01D 1/00	Hand-cutting implements for harvesting
A01D 3/00	Non-abrasive sharpening devices for scythes, sickles, or the like
A01D 5/00	Containers for whetstones for use during harvesting
A01D 7/00	Rakes (mowers convertible to rakes or capable of raking A01D 42/02; mowers combined with rakes A01D 43/02; haymakers, crop conditioners A01D 76/00 to A01D 84/00)
A01D 9/00	Forks
A01D 11/00	Other hand implements

Reasoning

General order: Specialised crops, e.g. root crops - combinations with mowers - mowers - methods (residual to apparatus) - details and accessories of mowers and combines - haymakers - handling - hand implements and accessories.

A01F 29/00	Special adaptations of cutting machines for cutting hay, straw or fodder; Cutting apparatus of chaff-cutters
A01F 3/00	Hand-operated implements for cutting-up hay or straw (mechanically-driven straw cutters A01F 29/00)
A01F 11/00	Threshing machines adapted for special crops; Threshing devices for combines adapted for special crops
A01F 9/00	Threshing machines with flails; Threshing devices with flails for combines
A01F 7/00	Threshing machines (with flails A01F 9/00); Threshing devices for combines
A01F 5/00	Hand-operated implements for threshing
A01F 12/00	Parts or details of threshing machines; Parts or details of threshing devices for combines
A01F 15/00	Baling presses for straw, hay, or the like
A01F 13/00	Hand-operated baling apparatus
A01F 1/00	Stationary apparatus or hand tools for forming or binding straw or hay into bundles (baling apparatus or presses A01F 13/00, A01F 15/00)
A01F 21/00	Devices for protecting human beings
A01F 17/00	Straw conveyers for threshing machines or baling presses
A01F 19/00	Devices for securing threshing machines or baling presses to the ground, e.g. for compensating for unevenness of the ground
A01F 25/00	Storing agricultural or horticultural produce; Hanging-up harvested fruit

Reasoning

General order: Cutting - threshing - baling - accessories for threshers or balers - storing

ANNEX 1

A01G 15/00	Devices or methods for influencing weather conditions
A01G 33/00	Cultivation of seaweed
A01G 31/00	Hydroponics; Cultivation without soil (A01G 33/00 takes precedence)
A01G 9/00	Cultivation of flowers, vegetables or rice in receptacles, forcing-frames or greenhouses (cultivation without soil A01G 31/00)
A01G 16/00	Cultivation of rice (A01G 9/00 takes precedence)
A01G 17/00	Cultivation of hops, vines, fruit trees, or like trees
A01G 23/00	Forestry
A01G 1/00	Horticulture; Cultivation of vegetables
A01G 7/00	Botany in general (cultivation without soil A01G 31/00)
A01G 11/00	Sterilising soil by steam
A01G 27/00	Self-acting watering devices, e.g. for flower-pots
A01G 29/00	Root feeders; Injecting fertilisers into the roots
A01G 25/00	Watering gardens, fields, sports grounds, or the like
A01G 3/00	Cutting implements specially adapted for horticultural purposes; Delimiting standing trees (felling trees A01G 23/08)
A01G 5/00	Floral handling
A01G 13/00	Protecting plants

Reasoning

General order: Weather - cultivation from specialised to general - auxiliaries

US Counter Proposal

26 April 2003

Project: R005/03**Subclass: A01G**Proposal for rearranged order of main groups:

A01G HORTICULTURE; CULTIVATION OF VEGETABLES, FLOWERS, RICE, FRUIT, VINES, HOPS, OR SEAWEED; FORESTRY; WATERING (picking of fruit, vegetables, hops, or the like A01D 46/00; plant reproduction by tissue culture techniques A01H 4/00; devices for topping or skinning onions or flower bulbs A23N 15/08; propagating unicellular algae C12N 1/12; plant cell culture C12N 5/00)

IPC	Maingroup Title	Guideline
	Special groups not specific to horticulture or botany per se	
A01G 15/00	Devices or methods for influencing weather conditions (dispersing fog in general E01H 13/00)	4
A01G 11/00	Sterilising soil by steam (soil-conditioning or soil-stabilising materials C09K 17/00)	4
A01G 5/00	Floral handling	4
	Horticulture/botany/cultivation	
A01G 33/00	Cultivation of seaweed [2]	7
A01G 31/00	Hydroponics; Cultivation without soil (A01G 33/00 takes precedence) [2]	7
A01G 9/00	Cultivation of flowers, vegetables or rice in receptacles, forcing-frames or greenhouses (cultivation without soil A01G 31/00)	7
A01G 16/00	Cultivation of rice (A01G 9/00 takes precedence) [3]	7
A01G 17/00	Cultivation of hops, vines, fruit trees, or like trees	7
A01G 1/00	Horticulture; Cultivation of vegetables (labels or name-plates G09F 3/00, G09F 7/00)	7
A01G 23/00	Forestry	7
	Ancillary groups	
A01G 3/00	Cutting implements specially adapted for horticultural purposes; Delimiting standing trees (felling trees A01G 23/08; mowers having rotating flexible line cutters A01D 34/416; special adaptation of mowers for carrying by the operator A01D 34/90; hand-held cutting tools suitable for other use B26B) [5]	9
A01G 13/00	Protecting plants (apparatus for the destruction of vermin or noxious animals A01M; use of chemical materials therefor, composition of protective materials, e.g. grafting wax, A01N)	9
A01G 29/00	Root feeders; Injecting fertilisers into the roots	9
A01G 27/00	Self-acting watering devices, e.g. for flower-pots	9
A01G 25/00	Watering gardens, fields, sports grounds, or the like (special apparatus or adaptations for fertilising-liquids A01C 23/00; nozzles or outlets, spraying apparatus B05B; gravity flow, open channel irrigation ditch systems E02B 13/00)	9
	Residual group	
A01G 7/00	Botany in general (cultivation without soil A01G 31/00)	10

Comments:

Basically we agree with Rapporteurs rearrangement but offer some slight modifications as an alternative for consideration, after discussing this with our plant experts:

- We have taken the unusual groups that don't seem to deal with the growing of living plants nor auxiliaries therefore plants moved them up top as "specials"
- Other very minor changes have been made to align similar subject matter better align from complex to simple

No new residual main group is now needed because botany in general should take care of any residual subject matter that falls within the scope of the subclass

ANNEX 1

A01J 27/00	After-treatment of cheese; Coating the cheese
A01J 25/00	Cheese-making
A01J 17/00	Kneading machines for butter, or the like
A01J 15/00	Manufacturing butter
A01J 23/00	Devices for dividing bulk butter, or the like
A01J 21/00	Machines for forming slabs of butter, or the like
A01J 19/00	Hand devices for forming slabs of butter, or the like
A01J 13/00	Tanks for treating cream
A01J 11/00	Apparatus for treating milk
A01J 1/00	Devices or accessories for milking by hand
A01J 3/00	Milking with catheters
A01J 5/00	Milking machines or devices (A01J 1/00, A01J 3/00 take precedence)
A01J 7/00	Accessories for milking machines or devices
A01J 9/00	Milk receptacles

Reasoning:

General order: Production of specialised products - production of milk - accessories

US Counter Proposal

11 April 2003

Project: R007/03**Subclass: A01J**Proposal for rearranged order of main groups:

A01 J **MANUFACTURE OF DAIRY PRODUCTS** (preservation, pasteurisation, sterilisation of milk products A23 ; for chemical matters, see subclass 123 C)

IPC	Maingroup Title	Guideline
	Cheese	
A01J 27/00	After-treatment of cheese; Coating the cheese	4
A01J 25/00	Cheese-making	7
	Butter	
A01J 17/00	Kneading machines for butter, or the like	4
A01J 15/00	Manufacturing butter	7
A01J 23/00	Devices for dividing bulk butter, or the like	8
A01J 21/00	Machines for forming slabs of butter, or the like	8
A01J 19/00	Hand devices for forming slabs of butter, or the like	8
	Milk	
A01J 13/00	Tanks for treating cream	4
A01J 11/00	Apparatus for treating milk	4
A01J 1/00	Devices or accessories for milking by hand	7
A01J 3/00	Milking with catheters	7
A01J 5/00	Milking machines or devices (A01J 1/00, A01J 3/00 take precedence)	7
A01J 7/00	Accessories for milking machines or devices	8
A01J 9/00	Milk receptacles	8

Comments:

We agree with Rapporteur's proposal for the rearrangement, reproducing it above with the Guidelines indicated and with separations indicated of blocks of groups for easier navigation..

Additionally, we believe a group should be added to provide for anything not falling out in one of the preceding groups. An example would be an invention relating to the production of yogurt.

ANNEX 1

A01K 59/00	Honey collection
A01K 47/00	Beehives
A01K 51/00	Appliances for treating beehives or parts thereof, e.g. for cleaning or disinfecting
A01K 49/00	Rearing-boxes; Queen transporting or introducing cages
A01K 53/00	Feeding or drinking appliances for bees
A01K 57/00	Appliances for providing, preventing, or catching swarms; Drone-catching devices
A01K 55/00	Bee-smokers; Bee-keepers' accessories, e.g. veils
A01K 43/00	Testing, sorting, or cleaning eggs
A01K 41/00	Incubators for poultry
A01K 31/00	Housing birds
A01K 39/00	Feeding or drinking appliances for poultry or other birds
A01K 35/00	Marking poultry or other birds
A01K 37/00	Constraining birds, e.g. wing clamps
A01K 33/00	Nest-eggs
A01K 45/00	Other aviculture appliances, e.g. devices for determining whether a bird is about to lay
A01K 63/00	Receptacles for live fish, e.g. aquaria (keepnets or other containers for keeping captured fish A01K 97/20); Terraria
A01K 61/00	Culture of fish, mussels, crayfish, lobsters, sponges, pearls, or the like (harvesting oysters, mussels, sponges or the like A01K 80/00)
A01K 73/00	Drawn nets
A01K 71/00	Floating nets
A01K 69/00	Stationary catching devices
A01K 74/00	Other catching nets or the like
A01K 75/00	Accessories for nets; Details of nets, e.g. structure
A01K 77/00	Landing-nets; Landing-spoons
A01K 79/00	Methods or means of catching fish in bulk not provided for in groups A01K 69/00 to A01K 77/00
A01K 81/00	Fishing with projectiles
A01K 85/00	Artificial baits
A01K 83/00	Fish-hooks
A01K 89/00	Reels (devices for casting lines A01K 91/02)
A01K 93/00	Floats for angling, with or without signalling devices
A01K 95/00	Sinkers for angling
A01K 91/00	Lines
A01K 87/00	Rods
A01K 65/00	Fish stringers
A01K 97/00	Accessories for angling (landing-nets, landing-spoons A01K 77/00)
A01K 80/00	Harvesting oysters, mussels, sponges or the like (nets A01K 73/00, A01K 74/00)
A01K 1/00	Housing animals; Equipment therefor
A01K 9/00	Sucking apparatus for young stock
A01K 5/00	Feeding devices for stock or game (A01K 1/10 takes precedence; for poultry A01K 39/00)
A01K 7/00	Watering equipment for stock or game

A01K 11/00	Marking of animals (of poultry A01K 35/00)
A01K 17/00	Dehorner; Horn trainers
A01K 14/00	Removing the fleece from live sheep or similar animals
A01K 13/00	Devices for grooming or caring of animals, e.g. curry-combs; Fetlock rings; Tail-holders; Devices for preventing crib-biting; Washing devices; Protection against weather conditions or insects
A01K 19/00	Weaning apparatus
A01K 15/00	Devices for taming animals, e.g. nose-rings, hobbles; Devices for overturning animals in general; Training equipment; Covering boxes
A01K 21/00	Devices for assisting or preventing mating (covering boxes A01K 15/00)
A01K 3/00	Pasturing equipment, e.g. tethering devices; Grids for preventing cattle from straying; Electrified wire fencing
A01K 25/00	Muzzles
A01K 27/00	Leads or collars, e.g. for dogs
A01K 23/00	Manure or urine pouches
A01K 29/00	Other apparatus for animal husbandry
A01K 67/00	Rearing or breeding animals, not otherwise provided for; New breeds of animals

Reasoning

A difficult one. Should "fishing" be a separate part - I have put it after culture of fish?

General order: Bees - birds - fish - cattle and general - residual. In each part the general order is housing - feeding - treating - constraining - auxiliaries

US Counter Proposal

30 April 2003

Project: R008/03**Subclass: A01K****ANIMAL HUSBANDRY; CARE OF BIRDS, FISHES, INSECTS; FISHING; REARING OR BREEDING ANIMALS, NOT OTHERWISE PROVIDED FOR; NEW BREEDS OF ANIMALS**Proposal for rearranged order of main groups:

IPC	Main group Title	Guideline
	Apiculture (air-type specific to only bees)	7
A01K 59/00	Honey collection	7b
A01K 47/00	Beehives	7c
A01K 51/00	Appliances for treating beehives or parts thereof, e.g. for cleaning or disinfecting	7c
A01K 49/00	Rearing-boxes; Queen transporting or introducing cages	7c
A01K 53/00	Feeding or drinking appliances for bees	7c
A01K 57/00	Appliances for providing, preventing, or catching swarms; Drone-catching devices	7c
A01K 55/00	Bee-smokers; Bee-keepers' accessories, e.g. veils (smoking pipes A24F)	8
	Aviculture (air-type for all birds)	7
A01K 43/00	Testing, sorting, or cleaning eggs (investigating or analysing eggs, e.g. by candling, G01N 33/08)	4
A01K 41/00	Incubators for poultry	7b
A01K 31/00	Housing birds	7c
A01K 39/00	Feeding or drinking appliances for poultry or other birds [2]	7c
A01K 35/00	Marking poultry or other birds	7c
A01K 37/00	Constraining birds, e.g. wing clamps	7c
A01K 33/00	Nest-eggs	7c
A01K 45/00	Other aviculture appliances, e.g. devices for determining whether a bird is about to lay	8
	Fishing, Fishing accessories, Harvesting Marine Animal (water types)	
A01K 80/00	Harvesting oysters, mussels, sponges or the like (nets A01K 73/00, A01K 74/00; dredgers E02F) [3]	4
A01K 81/00	Fishing with projectiles (weapons, projectiles other than fish-spears F41, F42)	7b
A01K 69/00	Stationary catching devices	7c
A01K 73/00	Drawn nets	7c
A01K 71/00	Floating nets	7c
A01K 74/00	Other catching nets or the like [2]	7c
A01K 75/00	Accessories for nets; Details of nets, e.g. structure [4]	7c
A01K 77/00	Landing-nets; Landing-spoons	7c
A01K 79/00	Methods or means of catching fish in bulk not provided for in groups A01K 69/00 to A01K 77/00	8
A01K 85/00	Artificial baits	7c
A01K 83/00	Fish-hooks	7c
A01K 89/00	Reels (devices for casting lines A01K 91/02)	7c
A01K 87/00	Rods	7c
A01K 93/00	Floats for angling, with or without signalling devices [4,5]	7c
A01K 95/00	Sinkers for angling [4]	7c
A01K 91/00	Lines	7c

A01K 65/00	Fish stringers	7c
A01K 97/00	Accessories for angling (landing-nets, landing-spoons A01K 77/00)	8
	Pisciculture; Aquaria; Terraria (water-types)	
A01K 61/00	Culture of fish, mussels, crayfish, lobsters, sponges, pearls, or the like (harvesting oysters, mussels, sponges or the like A01K 80/00)	7b
A01K 63/00	Receptacles for live fish, e.g. aquaria (keepnets or other containers for keeping captured fish A01K 97/20); Terraria [5]	7b
	Livestock, Land animals, and other animals in general	
A01K 14/00	Removing the fleece from live sheep or similar animals (hand-held cutting tools B26B) [5]	7b
A01K 21/00	Devices for assisting or preventing mating (covering boxes A01K 15/00)	7b
A01K 1/00	Housing animals; Equipment therefor (building construction, features of buildings E04; ventilating buildings F24F)	7c
A01K 9/00	Sucking apparatus for young stock	7c
A01K 19/00	Weaning apparatus	7c
A01K 5/00	Feeding devices for stock or game (A01K 1/10 takes precedence; for poultry A01K 39/00) [2]	7c
A01K 7/00	Watering equipment for stock or game	7c
A01K 17/00	Dehorner; Horn trainers	7c
A01K 11/00	Marking of animals (of poultry A01K 35/00; lead-sealing pliers B25B)	7c
A01K 13/00	Devices for grooming or caring of animals, e.g. curry-combs (scissors B26B); Fetlock rings (bandages, poultices A61D); Tail-holders (as part of the harness B68B 5/04); Devices for preventing crib-biting; Washing devices (milking machine accessories for treatment of udders or teats A01J 7/04; for medical purposes A61D 11/00); Protection against weather conditions or insects	7c
A01K 25/00	Muzzles	7c
A01K 15/00	Devices for taming animals, e.g. nose-rings, hobbles; Devices for overturning animals in general; Training equipment; Covering boxes (devices for veterinary purposes A61D 3/00)	7c
A01K 3/00	Pasturing equipment, e.g. tethering devices; Grids for preventing cattle from straying; Electrified wire fencing (construction of fencing in general E04H 17/00; electric circuits for fences H05C)	7c
A01K 27/00	Leads or collars, e.g. for dogs (devices specially adapted or mounted for storing and repeatedly paying-out and re-storing lengths of material B65H 75/34)	7c
A01K 23/00	Manure or urine pouches	7c
A01K 29/00	Other apparatus for animal husbandry	8
A01K 67/00	Rearing or breeding animals, not otherwise provided for; New breeds of animals (methods for reproduction or fertilisation A61D 19/00; medicinal preparations containing sperm A61K 35/52; tissue- or animal-cell cultivation apparatus C12M 3/00; cultivation or maintenance of tissue or animal cells C12N 5/00; mutation or genetic engineering C12N 15/00)	8
?	A residual main group may be needed since there could be 'other' bee keeping appliances and aviculture accessories. Since these are animals that are provided for they are not covered by 67/00.	10

Comments:

We agree with Rapporteur that this subclass is difficult to arrange and have, for the most part, relied on his expertise to accept his rearrangement with the few minor exceptions indicated.

Rapporteur's ordering seems to follow the concept of dividing the scheme into three major divisions of subject matter based on:

- Birds or other winged-type animals (those that potentially spend a portion of their life in the air),
- Fish, wet-land, and other water-type animals (those that potentially spend a portion of their life in the water but never in the air), and
- Farm or other land-type animals (those that spend their life only on land).

Within these divisions, we suggest that it would seem logical to order the groups based on:

1. Apparatus for harvesting, collecting, or catching a useable animal product,
2. Apparatus used to create an animal as the product (e.g., 61/00), and
3. Apparatus for rearing or caring for animals.

We have moved the harvesting of shellfish up in fishing area since this seems to be more specialized.

We move fishing with projectiles higher since it is a special type of fishing and may be used in bulk or individual fishing.

We moved stationary-catching devices higher since it is more limited in scope than the other bulk catching devices and includes stationary nets.

Under fishing, we moved rods directly under reels (we felt they should be adjacent one another since they are so often used together and they are of equal comprehensiveness)

Under the broad category of livestock and other animals we moved removing fleece from live sheep to the top since it is a special type of harvesting of an animal product.

We also moved devices for assisting mating toward the top of this section since it helps create the animal as a product.

Under the broad category of livestock and other animals we moved weaning apparatus after sucking apparatus (related art that is of equal comprehensiveness)

We also put muzzles adjacent devices for taming animals for grouping purposes

We left main group 67/00 at the bottom of the scheme as suggested by SE. However the portion of this title covering "New breeds of animals (methods for reproduction or fertilisation A61D 19/00; medicinal preparations containing sperm A61K 35/52)" would be properly located at the top of the scheme (see Guidelines step 3a) as being highly specialized. Precedence references may be needed if located here. Unfortunately, since this main group cannot be divided, locating it at the top would be confusing because of the 'not otherwise provided for subject matter' also in the title.

A new residual main group is needed.

A01L 15/00	Apparatus or use of substances for the care of hoofs
A01L 5/00	Horseshoes made of elastic materials
A01L 3/00	Horseshoes fastened by means other than nails, with or without additional fastening by nailing
A01L 1/00	Shoes for horses or other solipeds fastened with nails (A01L 3/00 takes precedence)
A01L 9/00	Shoes for other animals, e.g. oxen
A01L 7/00	Accessories for shoeing animals
A01L 11/00	Farriers' tools or appliances
A01L 13/00	Pens for animals while being shod

Reasoning

General order: Care - shoes - auxiliaries

US Comments

30 April 2003

Project: R009/03**Subclass: A01L**Proposal for rearranged order of main groups:**A01L SHOEING OF ANIMALS**

IPC	Main group Title	Guideline
A01L 5/00	Horseshoes made of elastic materials	7
A01L 3/00	Horseshoes fastened by means other than nails, with or without additional fastening by nailing	7
A01L 1/00	Shoes for horses or other solipeds fastened with nails (A01L 3/00 takes precedence)	7
A01L 9/00	Shoes for other animals, e.g. oxen	8
A01L 7/00	Accessories for shoeing animals	9
A01L 11/00	Farriers' tools or appliances (making horseshoes by rolling B21H 7/12, by forging B21K 15/02)	9
A01L 13/00	Pens for animals while being shod	9
A01L 15/00	Apparatus or use of substances for the care of hoofs	9

Comments:

We agree with most of the recommendation of the Rapporteur with the indicated changes. We have reproduced the above schedule mainly to show the guidelines for each group.

We moved 5/00 above other type of horseshoes since it is a special type.

We moved 3/00 ahead of 1/00 since it has priority over 1/00.

We moved 9/00 ahead of 7/00 since it is the residual for 'shoes' for animals other than horses.

No new residual main group is needed.

ANNEX 1

A01M 17/00	Apparatus for the destruction of vermin in soil or in foodstuffs
A01M 5/00	Catching insects in fields, gardens, or forests by movable appliances
A01M 1/00	Stationary means for catching or killing insects
A01M 3/00	Manual implements, other than sprayers or powder distributors, for catching or killing insects, e.g. butterfly nets
A01M 23/00	Traps for animals
A01M 27/00	Apparatus having projectiles or killing implements projected to kill the animal, e.g. pierce or shoot, and triggered thereby
A01M 15/00	Flame-throwers specially adapted for purposes covered by this subclass
A01M 19/00	Apparatus for the destruction of noxious animals, other than insects, by hot water, steam, hot air, or electricity
A01M 13/00	Fumigators; Apparatus for distributing gases
A01M 11/00	Special adaptations or arrangements of combined liquid- and powder-spraying apparatus for purposes covered by this subclass
A01M 9/00	Special adaptations or arrangements of powder-spraying apparatus for purposes covered by this subclass
A01M 7/00	Special adaptations or arrangements of liquid-spraying apparatus for purposes covered by this subclass
A01M 25/00	Devices for dispensing poison for animals (A01M 27/00 takes precedence; for insects A01M 1/20)
A01M 29/00	Scaring devices, e.g. bird-scaring apparatus
A01M 31/00	Hunting appliances
A01M 21/00	Apparatus for the destruction of unwanted vegetation, e.g. weeds

Reasoning

General order: Specialised - insects - catching - killing - scaring - hunting - weeds

Example 1 - Approved Top-down Sequence for A44B**BUTTONS, PINS, BUCKLES, SLIDE FASTENERS, OR THE LIKE**

Main groups of subclass in top-down sequence		
Fasteners or Retainers Specially Adapted as Accompaniments for Garments		
Retainers or tethers for neckties, cravats, neckerchiefs, or the like	6/00	Step 4
Collar-studs	3/00	Step 4
Sleeve-links	5/00	Step 4
General Use Fasteners		
Slide fasteners	19/00	Step 7b
Fasteners of the touch-and-close type; Making such fasteners	18/00	Step 7b
Buckles; Similar fasteners for interconnecting straps or the like	11/00	Step 7b
Press-button or snap fasteners	17/00	Step 7b
Hook or eye fasteners	13/00	Step 7b
Hat, scarf, or safety pins or the like	9/00	Step 7b
Buttons	1/00	Step 7b
Other clamping or holding devices	21/00	Step 7b
Other devices		
Key-rings	15/00	Step 7b
Accessories and Ancillary Devices		
Cards for buttons, collar-studs, or sleeve-links	7/00	Step 9
New residual main group needed obviously for the 'or the like'	?	Step 10

Example 2 - Approved Top-down Sequence for A61B (Showing
Proposed Divided Main Group)

DIAGNOSIS; SURGERY; IDENTIFICATION

Main groups of subclass in top-down sequence		
Surgery	Step 1-b,c,&d	
Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body	18/00	Step 2a, Step 4
Surgical instruments, devices or methods	17/00	Step 2a, Step 7c
Devices specially adapted for vivisection or autopsy	16/00	Step 2a, Step 7c
Diagnosis	Step 1-b,c,&d	
Apparatus for radiation diagnosis	6/00	Step 2a, Step 4
Diagnosis using ultrasonic, sonic or infrasonic waves	8/00	Step 2a, Step 4
Instruments for performing medical examinations of the interior of cavities or tubes of the body by visual or photographic inspection; Illuminating arrangements therefor	1/00	Step 2a, Step 3a, Step 7c
Apparatus for testing the eyes; Instruments for examining the eyes	3/00	Step 2a, Step 3a, Step 7c
Instruments for auscultation	7/00	Step 2a, Step 7c
Measuring for diagnostic purposes	5/00	Step 2a, Step 7c
Instruments for depressing the tongue	13/00	Step 2a, Step 7c
Instruments for examination by percussion; Pleximeters	9/00	Step 2a
Other methods or instruments for diagnosis; Sex determination; Ovulation-period determination; Throat striking implements	10/00	Step 2a, Step 3a, Step 7c
Person-Identification	Step 1-b,c,&d	
Identification of individuals	5/117	Step 7
Accessories and Ancillary Devices		
Instruments, implements or accessories for surgery or diagnosis not covered by any of the groups A61B 1/00 to A61B 18/00	19/00	Step 9a
New residual main group needed. It is possible that other forms of identification of people such as by geographical region of origin or race are covered by the subclass title. This is clearly beyond the identification of individuals in main group 5/00.	?	Step 10

This subclass consists of three distinct collections of invention information. Two of them are related to the medical field. In some situations there are overlapping combinations of this invention information. Surgery procedures require physical actions for modifying bodies, but may also include diagnostic steps. The sequence of this scheme was based on the major divisions of this subclass ordered by the extent they effect people's bodies and within divisions on complexity. The main groups for surgery were placed 1st since they involve actual physical modification of or work on bodies (for changing bodies). The main groups involved in diagnosis were placed 2nd since they are used to study the functioning of bodies (for determining how well bodies are working). The group for identification was placed 3rd since it identifies and uses unique characteristics of an individual's body for identification purposes (for analyzing what is unique about a body).

In this proposed sequence, Rapporteur divided main group 5/00 into two parts (5/117 and the residual 5/00), since the two parts of the title were of different complexity and also unrelated to each other. If the distinct parts of the main group must be located in a single location, then it should be positioned in the location of the more complex portion covered by 5/00 (see step 3A).

US Rapporteur Proposal

12 March 2003

Project: R014/03**Subclass: A61G**Proposal for rearranged order of main groups:

IPC	Maingroup Title	Guideline
	Patient Treatment and Life-support Facilities	Step 7b
A61G 11/00	Baby-incubators; Couveuses	Steps 4, 7c
A61G 10/00	Treatment rooms for medical purposes (baby incubators, couveuses A61G 11/00; devices for gas baths with ozone, hydrogen or the like A61H 33/14; containers or portable cabins for affording breathing protection in general A62B 31/00) [4]	Steps 4, 7c
	Transportation Means for Patients, Disabled Persons, or Deceased	Step 7b
A61G 3/00	Ambulance aspects of vehicles; Vehicles with special provisions for transporting disabled persons or their personal conveyances	Step 7c
A61G 21/00	Funereal aspects of hearses or like vehicles [5]	Step 7c
A61G 5/00	Chairs or personal conveyances specially adapted for disabled persons	Step 7c
A61G 1/00	Stretchers	Step 7c
	Handling Means for Patients, Disabled Persons, or Deceased	Step 7b
A61G 7/10	Devices for lifting patients or disabled persons	Steps 3b, 7c
A61G 19/00	Hoisting or lowering devices for coffins	Step 7c
	Beds, Chairs, or Tables for Patients, Disabled Persons, or Deceased	Step 7b
A61G 13/00	Operating tables; Auxiliary appliances therefor (adjustability of tables in general A47B 9/00; illumination of operating tables F21)	Step 7c
A61G 15/00	Operating chairs; Dental chairs (barbers' chairs A47C 1/04); Accessories specially adapted therefor, e.g. work stands [5]	Step 7c
A61G 7/00	Beds specially adapted for nursing (A61F 5/045 takes precedence; stretchers with patient or invalid picking-up facilities A61G 1/003) [5,6]	Steps 3b, 7c
	Accessories and Ancillary Devices	Step 7b
A61G 9/00	Bed-pans, urinals or other sanitary devices for bed-ridden persons; Cleaning devices therefor, e.g. combined with toilet-urinals (urinals worn by the patient A61F 5/44)	Step 8a
A61G 12/00	Accommodation for nursing, e.g. in hospitals, not covered by any preceding group of this subclass (A61G 1/00 – A61G11/00), e.g. trolleys for transport of medicaments or food (service or tea tables, trolleys or wagons A47B 31/00); Prescription lists	Step 8a
A61G 17/00	Coffins; Wrappings; Urns	Step 8a

?	New residual main group is needed since “accommodations specially adapted for patients or disabled persons” is broader in scope than the subject matter of 12/00. “Funeral devices” is also broader in scope than its existing main groups.	Step 10
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Comments:

In this proposed sequence, Rapporteur divided main group 7/00 into two parts (7/10 and the residual 7/00), since the two parts of the title were of different complexity and also unrelated to each other. If the distinct parts of the main group must be located in a single location, then it should be positioned in the location of the more complex portion covered by 7/10 (see step 3A).

ANNEX 1

IPC	Maingroup Title
A61L 33/00	Antithrombogenic treatment of surgical articles, e.g. sutures, catheters, prostheses, or of articles for the manipulation or conditioning of blood; Materials for such treatment [4,7]
A61L 17/00	Materials for surgical sutures or for ligaturing blood vessels (surgical adhesives A61L 24/00; surgical instruments, devices or methods for suturing or ligaturing A61B 17/04, A61B 17/12; supports or packages for suture materials A61B 17/04) [3,4]
A61L 27/00	Materials for prostheses or for coating prostheses (dental prostheses A61C 13/00; shape or structure of prostheses A61F 2/00; use of preparations for artificial teeth A61K 6/02; artificial kidneys A61M 1/14) [4]
A61L 29/00	Materials for catheters or for coating catheters (shape or structure of catheters A61M 25/00) [4]
A61L 26/00	Chemical aspects of, or use of materials for, liquid bandages [7]
A61L 24/00	Surgical adhesives or cements; Adhesives for colostomy devices [7]
A61L 28/00	Materials for colostomy devices (adhesives for colostomy devices A61L 24/00) [7]
A61L 15/00	Chemical aspects of, or use of materials for, bandages, dressings or absorbent pads (for liquid bandages A61L 26/00; radioactive dressings A61M 36/14)
A61L 31/00	Materials for other surgical articles [4]
A61L 12/00	Methods or apparatus for disinfecting or sterilising contact lenses; Accessories therefor [7]
A61L 9/00	Disinfection, sterilisation or deodorisation of air (body deodorants A61K 7/32; purifying air by respirators A62B, A62D 9/00; separating dispersed particles from gases or vapours B01D 45/00 to B01D 51/00, B03C 3/00; chemical or biological purification of waste gases B01D 53/34; production of ozone C01B 13/10; air-conditioning systems incorporating sterilisation F24F 3/16)
A61L 11/00	Methods specially adapted for refuse
A61L 2/00	Methods or apparatus for disinfecting or sterilising materials or objects other than foodstuffs or contact lenses; Accessories therefor (for contact lenses A61L 12/00; atomisers for disinfecting agents A61M; sterilisation of packages or package contents in association with packaging B65B 55/00; treatment of water, waste water, sewage or sludge C02F; disinfecting paper D21H 21/36; disinfecting devices for water closets E03D; articles having provision for disinfection, see the relevant subclasses for these articles, e.g. H04R 1/12) [3,5,7]
A61L 101/00	Chemical composition of materials used in disinfecting, sterilising or deodorising [7]
A61L 25/00	(A61L 24/00, A61L 26/00, A61L 28/00)

Reasoning: materials for medical uses have been regarded as more specialised than disinfection, sterilisation and deodorisation. There are several local last place rules within main groups in this subclass, but these do not affect this rearrangement of main groups.

US Rapporteur Proposal

10 March 2003

Project: R017/03**Subclass: A61N**Proposal for rearranged order of main groups:

IPC	Main group Title	Guideline
A61N 7/00	Ultrasound therapy (lithotripsy A61B 17/22, A61B 17/225; massage using supersonic vibration A61H 23/00) [6]	Steps 1b, 7b
A61N 5/00	Radiation therapy (ultrasound therapy A61N 7/00; devices or apparatus applicable to both therapy and diagnosis A61B 6/00; applying radioactive material to the body A61M 36/00) [5,6]	Steps 1b, 7b
A61N 2/00	Magnetotherapy [5]	Steps 1b, 7b
A61N 1/00	Electrotherapy; Circuits therefor (A61N 2/00 takes precedence; irradiation apparatus A61N 5/00) [5]	Steps 1b, 7b
?	New residual main group "Therapy not otherwise provided for utilizing non-mechanical forms of energy" is needed to cover existing subclass scope.	Step 10

Comments:

Rapporteur adjusted the order to reflect the existing precedence reference and 'limiting' references. However, the proposed defined terms of the definition for these different types of therapy seem to eliminate all potential overlap between them. Absolute avoidance of overlap between radiation and ultrasound therapy could be done by modifying the definition of radiation therapy to read, "utilizes electro magnetic type energy ---". If the proposed order is used, this narrowing of the scope of radiation therapy is not needed.

As noted during definition discussions, the existing four-part title does not completely cover the actual scope of all of the existing groups and should be modified in the future. The suggested residual main group would make the actual scope clearer to searchers.

ANNEX 1

IPC	Maingroup Title
A63B 29/00	Apparatus for mountaineering (helmets A42B 3/00; non-skid devices or attachments for footwear, e.g. mountain climbing irons, A43C 15/00; breathing masks or helmets for use at high altitudes A62B 18/00; picks B25D 7/00) [3]
A63B 27/00	Apparatus for climbing poles, trees, or the like (safety belts for climbers A62B 35/00)
A63B 24/00	Electric or electronic controls for exercising apparatus of preceding groups [5]
A63B 22/00	Exercising apparatus specially adapted for conditioning the cardiovascular system, for training agility or co-ordination of movements (force-resisting aspects A63B 21/00; electric or electronic controls therefor A63B 24/00) [5]
A63B 23/00	Exercising apparatus specially adapted for particular parts of the body (A63B 22/00 takes precedence; force-resisting aspects A63B 21/00; electric or electronic controls therefor A63B 24/00; devices for exercising or strengthening of fingers or arms in teaching operation of keyboards G09B, e.g. G09B 15/06) [5]
A63B 21/00	Exercising apparatus for developing or strengthening the muscles or joints of the body by working against a counterforce, with or without measuring devices (electric or electronic controls therefor A63B 24/00; measuring muscular strength A61B 5/22)
A63B 17/00	Exercising apparatus combining several parts such as ladders, rods, beams, slides
A63B 1/00	Horizontal bars
A63B 3/00	Parallel bars or similar apparatus
A63B 4/00	Balance beams [5]
A63B 5/00	Apparatus for jumping (mats for jumping A63B 6/00; for racing or riding sports, e.g. hurdles, A63K) [5]
A63B 6/00	Mats or the like for absorbing shocks for jumping, gymnastics or the like [5]
A63B 7/00	Freely-suspended gymnastic apparatus
A63B 9/00	Climbing poles, frames, or stages
A63B 15/00	Clubs
A63B 19/00	Hoop exercising apparatus
A63B 25/00	Stilts or the like
A63B 26/00	Exercising apparatus not covered by groups A63B 1/00 to A63B 25/00 [5]
A63B 65/00	Implements for throwing (throwing toys A63H 33/18; throwing weapons F41B)
A63B 67/00	Miscellaneous sporting games
A63B 69/00	Training appliances or apparatus for special sports (training of parachutists B64D 23/00)
A63B 53/00	Golf clubs
A63B 49/00	Tennis, badminton, or like rackets
A63B 59/00	Bats, rackets, or the like, for other games (bats with a ball tethered thereto A63B 67/20)
A63B 51/00	Stringing tennis rackets
A63B 61/00	Tennis nets or accessories for tennis or like games
A63B 63/00	Targets or goals for ball games (golf cups A63B 57/00)
A63B 55/00	Bags for golf clubs; Stands for golf clubs for use on the course
A63B 57/00	Golf game accessories, e.g. golf cups, golf tees
A63B 43/00	Balls with special arrangements

A63B 37/00	Solid balls; Marbles (heavy throwing-balls A63B 65/06)
A63B 39/00	Hollow non-inflatable balls
A63B 41/00	Hollow inflatable balls (connecting valves to inflatable elastic bodies B60C 29/00; valves, e.g. self-closing valves, F16K)
A63B 45/00	Apparatus or methods for manufacturing balls (working of plastics or substances in a plastic state B29)
A63B 47/00	Devices for handling or treating balls
A63B 35/00	Swimming framework with driving mechanisms operated by the swimmer or by a motor (other vessels or like floating structures for pleasure or sport B63B 35/71, B63B 35/73; divers' sleds or like craft B63C 11/46)
A63B 33/00	Swimming equipment attachable to the head, e.g. swimming helmets, swimming goggles (breathing aids, e.g. snorkels, B63C 11/12)
A63B 31/00	Swimming aids (teaching swimming A63B 69/10 to A63B 69/14; life-saving in water B63C 9/00)
A63B 71/00	Games or sports accessories not covered in groups A63B 1/00 to A63B 69/00 (starting appliances A63K 3/02)
A63B 101/00	Exercising apparatus for persons lying down [5]
A63B 103/00	Exercising apparatus with common support frame for user's body and force-resister [5]

Reasoning: Climbing, then gymnastics, then ball games, then balls, then swimming. This order is related to the difficulty of the sport, and inversely to its popularity. Throwing and the games/sports of 65/00 to 69/00 are regarded as more specialised than golf and tennis. Golf clubs are regarded by me as more specialised than tennis rackets, but accessories therefore e.g. bags are regarded as less specialised than tennis accessories e.g. nets. (I speak as someone who plays both of these sports to a good standard).

ANNEX 1

IPC	Maingroup Title
A63C 19/00	Design or layout of playing courts, rinks, bowling greens or areas for water-skiing; Covers therefor (water roundabouts A63G 3/00; construction of surfaces or foundations E01C; roofs E04B 7/00; buildings or groups of buildings for sports E04H 3/10; swimming or splash baths or pools E04H 4/00; coverings for baths E04H 4/06) [4]
A63C 5/00	Skis; Ski vehicles (sledges with runners, e.g. ski-bobs, B62B 13/00)
A63C 9/00	Ski bindings
A63C 7/00	Devices preventing skis from slipping back; Ski-stoppers or ski-brakes [4]
A63C 11/00	Accessories for skis
A63C 1/00	Skates (roller skates or skate boards A63C 17/00)
A63C 3/00	Accessories for skates
A63C 17/00	Roller skates; Skate-boards [4]
A63C 13/00	Snow shoes

Reasoning: I regard skiing to be more specialised than skating – skaters may disagree ...

ANNEX 1

IPC	Maingroup Title
A63D 1/00	Bowling-alleys; Boccia courts (bowling greens A63C 19/00)
A63D 3/00	Table alleys; Miniature bowling-alleys; Bowling games (coin-freed G07F)
A63D 5/00	Accessories for bowling-alleys or table alleys
A63D 7/00	Games of pins, e.g. ninepins, with tethered balls
A63D 9/00	Pins
A63D 13/00	Bagatelle; Similar games (devices for projecting or rolling-off the balls A63F 7/24)
A63D 15/00	Billiards; Billiard tables; Pocket Billiards (bagatelles A63D 13/00)

Reasoning: Bowling and other alleys (1/00 to 5/00) could be regarded as combinations with the games concerned, so should go above games themselves which are basic subclass subject-matter. Main groups are therefore unchanged.

ANNEX 1

IPC	Maingroup Title
A63F 3/00	Board games; Raffle games (racing games, traffic games, or obstacle games characterised by figures moved by action of the players A63F 9/14; aspects of games using an electronically generated display having two or more dimensions showing representations related to the game A63F 13/00) [1,7]
A63F 5/00	Roulette games (aspects of games using an electronically generated display having two or more dimensions showing representations related to the game A63F 13/00) [1,7]
A63F 7/00	Indoor games using small moving playing bodies, e.g. balls, discs or blocks (board games, raffle games A63F 3/00; roulette games A63F 5/00; aspects of games using an electronically generated display having two or more dimensions showing representations related to the game A63F 13/00; miniature bowling games A63D 3/00; bagatelle or similar games A63D 13/00; billiards, pocket billiards A63D 15/00) [1,7]
A63F 1/00	Card games (aspects of games using an electronically generated display having two or more dimensions showing representations related to the game A63F 13/00) [1,7]
A63F 13/00	Aspects of games using an electronically generated display having two or more dimensions, e.g. on a television screen, showing representations related to the game (electric circuitry, see the relevant subclasses therefor) [7]
A63F 9/00	Miscellaneous games (aspects of games using an electronically generated display having two or more dimensions showing representations related to the game A63F 13/00; miscellaneous sporting games A63B 67/00) [1,7]
A63F 11/00	Game accessories of general use [7]

Reasoning: I regard board and roulette games as more specialised than card games.

ANNEX 1

IPC	Maingroup Title
A63G 1/00	Roundabouts
A63G 3/00	Water roundabouts, e.g. freely floating
A63G 5/00	Games on roundabouts
A63G 7/00	Up-and-down-hill tracks; Switchbacks
A63G 9/00	Swings
A63G 11/00	See-saws
A63G 13/00	Cradle swings; Rocking-horses; Like devices resting on the ground
A63G 15/00	Rocking horses on runners adapted for progressive movement
A63G 17/00	Hobby-horses
A63G 19/00	Toy animals for riding
A63G 21/00	Chutes; Helter-skelters
A63G 23/00	Rotating or rocking pots
A63G 25/00	Autocar-like self-drivers; Runways therefor
A63G 27/00	Russian swings; Great wheels, e.g. Ferris wheels
A63G 29/00	Rolling drums turning somersaults with or without rolling seats
A63G 31/00	Amusement arrangements
A63G 33/00	Devices allowing competitions between several persons, not otherwise provided for
A63G 4/00	Accessories for roundabouts not restricted to one of groups A63G 1/00 or A63G 3/00

Reasoning: All main groups relate to basic subclass subject matter, and appear equivalent so their order has not been changed. The exception is 4/00 which is an accessories group, and residual too.

ANNEX 1

IPC	Maingroup Title
A63H 17/00	Toy vehicles, e.g. with self-drive; Accessories therefor (traffic games with figures moved by players A63F 9/14)
A63H 19/00	Model railways (propulsion by special interaction between vehicle and track A63H 18/00)
A63H 21/00	Other toy railways
A63H 23/00	Toy boats; Floating toys; Other aquatic toy devices [2]
A63H 25/00	Toy steam, gas, or compressed-air engines (for locomotives A63H 19/06)
A63H 27/00	Toy aircraft; Other flying toys (toys with parachutes A63H 33/20)
A63H 18/00	Highways or trackways for toys (railway permanent way A63H 19/30; for special railways A63H 21/00); Propulsion by special interaction between vehicle and track
A63H 3/00	Dolls
A63H 7/00	Toy figures led or propelled by the user
A63H 5/00	Musical or noise-producing devices for additional toy effects other than acoustical (musical tops A63H 1/28; hand-thrown impact-exploded noise makers F42B 4/16; music, sound or noise production in general G10)
A63H 9/00	Special methods or compositions for the manufacture of dolls, toy animals, toy figures, or parts thereof
A63H 11/00	Self-movable toy figures
A63H 13/00	Toy figures with self-moving parts, with or without movement of the toy as a whole
A63H 15/00	Other gravity-operated toy figures
A63H 1/00	Tops (flying tops A63H 27/127)
A63H 29/00	Drive mechanisms for toys in general
A63H 30/00	Remote-control arrangements specially adapted for toys, e.g. for toy vehicles (steering mechanisms for toy vehicles A63H 17/36; for model railways A63H 19/24, A63H 19/28) [4]
A63H 31/00	Gearing for toys (gearing in general F16H)
A63H 37/00	Jokes; Confetti, streamers, or other dance favours [4]
A63H 33/00	Other toys

Reasoning: I have followed the arrangement (i) vehicles, (ii) dolls, (iii) driven figures, (iv) tops (all of which are basic subject matter), (v) driving/controlling vehicles (details) and (vi) other toys (residual). Since my children are boys, I have put vehicles above dolls; parents of girls may have a different opinion ...

ANNEX 1

IPC	Maingroup Title
A63J 1/00	Stage arrangements (fabrics for theatre decorations, for costumes, for curtains D03D; structural arrangements of stage or theatre E04H)
A63J 3/00	Equipment for, or arrangement of, circuses or arenas (circus buildings E04B, E04H)
A63J 5/00	Auxiliaries for producing special effects on stages, or in circuses or arenas (lighting therefor F21S)
A63J 7/00	Auxiliary apparatus for artistes
A63J 9/00	Centrifugal tracks, loop-the-loops, or the like (chutes for public amusement A63G 21/00)
A63J 11/00	Labyrinths
A63J 13/00	Panoramas, dioramas, stereoramas, or the like (models in general G09B)
A63J 15/00	Peep-shows, e.g. raree-shows; Kaleidoscopic or other opalescence exhibitions (colour toys A63H 33/22; kaleidoscopes G02B 27/08)
A63J 17/00	Apparatus for performing colour-music
A63J 19/00	Puppet, marionette, or shadow shows or theatres
A63J 21/00	Conjuring appliances; Auxiliary apparatus for conjurers
A63J 23/00	Equipment for amusement shows not covered by the preceding groups

Reasoning: All main groups except 23/00 relate to basic subclass subject matter, and their order has been left unchanged. 23/00 is residual and is placed at the end anyway.

ANNEX 1

IPC	Maingroup Title
A63K 1/00	Race-courses; Race-tracks
A63K 3/00	Equipment or accessories for racing or riding sports

ANNEX 1

IPC	Maingroup Title
B04B 13/00	Control arrangements specially designed for centrifuges; Programme control of centrifuges (control arrangements for feed, charge, or discharge B04B 11/00)
B04B 3/00	Centrifuges with rotary bowls in which solid particles or bodies become separated by centrifugal force and simultaneously sifting or filtering
B04B 1/00	Centrifuges with rotary bowls provided with solid jackets for separating predominantly liquid mixtures with or without solid particles
B04B 5/00	Other centrifuges
B04B 9/00	Drives specially designed for centrifuges; Arrangement or disposition of transmission gearing; Suspending or balancing rotary bowls
B04B 7/00	Elements of centrifuges (drives B04B 9/00; feeding, charging, or discharging accessories or devices B04B 11/00)
B04B 11/00	Feeding, charging, or discharging bowls (B04B 1/00, B04B 3/00, B04B 7/04 take precedence)
B04B 15/00	Other accessories for centrifuges

Reasoning: controlling is specialised.

Project: R-029 Subclass: B04B

We thank GB for the reordering proposed, and would suggest a minor change to the scheme:

-to place B04B11/00 between B04C9/00 and B04C7/00.

A.Narminio

UK Patent Office

Date: 15 May 2003

Rapporteur Report on Project R029, Subclass B04B

In response to the Rapporteur proposal of Annex 1, EP proposed a minor change to the order of main groups proposed by the Rapporteur, by placing B04B 11/00 between 9/00 and 7/00, i.e. by lifting 11/00 to a position above 7/00.

Rapporteur does not feel that this is clearly appropriate, because of original precedence rules. B04B 11/00 gives precedence to 1/00, 3/00 *and* 7/04. The fact that a subgroup of 7/00 takes precedence over 11/00 would suggest that the main group 7/00 should also take precedence over it.

Rapporteur therefore recommends that the original proposal of Annex 1 be adopted.

Martin Price

ANNEX 1

IPC	Maingroup Title
B04C 9/00	Combinations with other devices, e.g. fans (with filters B01D 50/00)
B04C 7/00	Apparatus not provided for in group B04C 1/00, B04C 3/00 or B04C 5/00; Multiple arrangements not provided for in one of the groups B04C 1/00, B04C 3/00, or B04C 5/00; Combinations of apparatus covered by two or more of the groups B04C 1/00, B04C 3/00, or B04C 5/00
B04C 5/00	Apparatus in which the axial direction of the vortex is reversed
B04C 3/00	Apparatus in which the axial direction of the vortex remains unchanged
B04C 1/00	Apparatus in which the main direction of flow follows a flat spiral
B04C 11/00	Accessories, e.g. safety or control devices, not otherwise provided for (with electrostatic precipitating arrangements B03C 3/14)

IPC/R 030

ANNEX 2

Project: R-030 Subclass: B04C

EP would prefer to keep the order of the groups as in IPC 7.

A.Narminio

ANNEX 1

IPC	Maingroup Title
B05B 12/00	Arrangements or special adaptations of delivery controlling means in spraying systems (controlling in general G05) [2]
B05B 13/00	Machines or plants for applying liquids or other fluent materials to surfaces of objects or other work by spraying, not covered by groups B05B 1/00 to B05B 11/00 (processes for applying liquids or other fluent materials to surfaces in general B05D; means for supplying or discharging liquid or other fluent material for this purpose, see the relevant preceding groups) [3]
B05B 3/00	Spraying or sprinkling apparatus with moving outlet elements or moving deflecting elements (B05B 5/00 takes precedence)
B05B 5/00	Electrostatic spraying apparatus; Spraying apparatus with means for charging the spray electrically; Apparatus for spraying liquids or other fluent materials by other electric means
B05B 7/00	Spraying apparatus for discharge of liquids or other fluent materials from two or more sources, e.g. of liquid and air, of powder and gas (B05B 3/00, B05B 5/00 take precedence; outlets not specially modified for two media B05B 1/00)
B05B 9/00	Spraying apparatus for discharge of liquid or other fluent material without essentially mixing with gas or vapour (B05B 11/00 takes precedence) [3]
B05B 11/00	Single-unit, i.e. unitary, hand-held apparatus in which flow of liquid or other fluent material is produced by the operator at the moment of use [2]
B05B 1/00	Nozzles, spray heads or other outlets, with or without auxiliary devices such as valves, heating means (B05B 3/00, B05B 5/00, B05B 7/00 take precedence; devices for applying liquids or other fluent materials to surfaces by contact B05C; nozzles for ink-jet printing mechanisms B41J 2/135; closures for containers B65D; nozzles for liquid-dispensing, e.g. in vehicle service stations, B67D 5/37)
B05B 17/00	Apparatus for spraying or atomising liquids or other fluent materials, not covered by the preceding groups (dropping or releasing powdered, liquid or gaseous matter in flight B64D 1/16) [2]
B05B 15/00	Details of spraying plant or apparatus not otherwise provided for; Accessories (accessories applicable to other methods of applying liquids or other fluent materials to surfaces B05C) [4]

Project: R-031 Subclass: B05B

We thank GB for the reordering proposed, and would suggest some changes in order to take into account the existing precedence notes. The residual groups being kept at the end of the scheme.

Proposal:

B05B5/00
B05B3/00 ...(B05B5/00 takes precedence)
B05B7/00 ...(B05B3/00 and B05B5/00 take precedence)
B05B1/00 ...(B05B3/00, B05B5/00 and B05B7/00 take precedence)
B05B11/00
B05B9/00 ...(B05B11/00 takes precedence)
B05B12/00
B05B17/00
B05B13/00
B05B15/00

A.Narminio

ANNEX 3

IPC	Maingroup Title
B05B 5/00	Electrostatic spraying apparatus; Spraying apparatus with means for charging the spray electrically; Apparatus for spraying liquids or other fluent materials by other electric means
B05B 3/00	Spraying or sprinkling apparatus with moving outlet elements or moving deflecting elements (B05B 5/00 takes precedence)
B05B 7/00	Spraying apparatus for discharge of liquids or other fluent materials from two or more sources, e.g. of liquid and air, of powder and gas (B05B 3/00, B05B 5/00 take precedence; outlets not specially modified for two media B05B 1/00)
B05B 1/00	Nozzles, spray heads or other outlets, with or without auxiliary devices such as valves, heating means (B05B 3/00, B05B 5/00, B05B 7/00 take precedence; devices for applying liquids or other fluent materials to surfaces by contact B05C; nozzles for ink-jet printing mechanisms B41J 2/135; closures for containers B65D; nozzles for liquid-dispensing, e.g. in vehicle service stations, B67D 5/37)
B05B 11/00	Single-unit, i.e. unitary, hand-held apparatus in which flow of liquid or other fluent material is produced by the operator at the moment of use [2]
B05B 9/00	Spraying apparatus for discharge of liquid or other fluent material without essentially mixing with gas or vapour (B05B 11/00 takes precedence) [3]
B05B 12/00	Arrangements or special adaptations of delivery controlling means in spraying systems (controlling in general G05) [2]
B05B 17/00	Apparatus for spraying or atomising liquids or other fluent materials, not covered by the preceding groups (dropping or releasing powdered, liquid or gaseous matter in flight B64D 1/16) [2]
B05B 13/00	Machines or plants for applying liquids or other fluent materials to surfaces of objects or other work by spraying, not covered by groups B05B 1/00 to B05B 11/00 (processes for applying liquids or other fluent materials to surfaces in general B05D; means for supplying or discharging liquid or other fluent material for this purpose, see the relevant preceding groups) [3]
B05B 15/00	Details of spraying plant or apparatus not otherwise provided for; Accessories (accessories applicable to other methods of applying liquids or other fluent materials to surfaces B05C) [4]

GB Rapporteur report dated 15 May 2003

R agrees with the EP comments.

Martin Price

ANNEX 1

IPC	Maingroup Title
B05C 7/00	Apparatus specially designed for applying liquid or other fluent material to the inside of hollow work
B05C 19/00	Apparatus specially adapted for applying particulate materials to surfaces [2]
B05C 1/00	Apparatus in which liquid or other fluent material is applied to the surface of the work by contact with a member carrying the liquid or other fluent material, e.g. a porous member loaded with a liquid to be applied as a coating (B05C 5/02, B05C 7/00 take precedence) [2]
B05C 3/00	Apparatus in which the work is brought into contact with a bulk quantity of liquid or other fluent material [2]
B05C 5/00	Apparatus in which liquid or other fluent material is projected, poured or allowed to flow on to the surface of the work (B05C 7/00 takes precedence; essentially involving spraying or electrostatic projection B05B)
B05C 9/00	Apparatus or plant for applying liquid or other fluent material to surfaces by means not covered by any preceding group, or in which the means of applying the liquid or other fluent material is not important
B05C 13/00	Means for manipulating or holding work, e.g. for separate articles [2]
B05C 15/00	Enclosures for apparatus; Booths (spray booths B05B 15/12) [4]
B05C 17/00	Hand tools or apparatus using hand-held tools, for applying liquids or other fluent materials to, for spreading applied liquids or other fluent materials on, or for partially removing applied liquids or other fluent materials from, surfaces (brushes A46B; absorbent pads, e.g. swabs, for applying media to the human body A61F 13/15; implements or apparatus for removing dry paint from surfaces B44D 3/16) [2]
B05C 11/00	Component parts, details or accessories not specifically provided for in groups B05C 1/00 to B05C 9/00 (means for manipulating or holding work B05C 13/00; enclosures for apparatus, booths B05C 15/00; spray booths B05B 15/12) [2]
B05C 21/00	Accessories or implements for use in connection with applying liquids or other fluent materials to surfaces, not provided for in groups B05C 1/00 to B05C 19/00 (accessories or implements for use in connection with painting or artistic drawing and fully provided for in B44D 3/02 to B44D 3/38, see subgroups of group B44D 3/00) [2]

Project: R-032 Subclass: B05C

We thank GB for the reordering proposed, and would suggest some changes in order to take into account the existing precedence notes. Group B05B19/00 being the only one which is not dealing with liquid or fluent material, we propose to keep it just before B05C21/00, as it is in IPC7.

Proposal:

B05C7/00
B05C5/00 ...(B05C7/00 takes precedence)
B05C1/00 ...(B05C5/02, B05C7/00 take precedence)
B05C3/00
B05C9/00
B05C13/00
B05C17/00
B05C15/00
B05C11/00 ...(B05C13/00, B05C15/00 take precedence)
B05C19/00
B05B21/00

A.Narminio

ANNEX 1

IPC	Maingroup Title
B05D 5/00	Processes for applying liquids or other fluent materials to surfaces to obtain special surface effects, finishes or structures [2]
B05D 7/00	Processes, other than flocking, specially adapted for applying liquids or other fluent materials to particular surfaces or for applying particular liquids or other fluent materials [2]
B05D 1/00	Processes for applying liquids or other fluent materials (B05D 5/00, B05D 7/00 take precedence) [2]
B05D 3/00	Pretreatment of surfaces to which liquids or other fluent materials are to be applied; After-treatment of applied coatings, e.g. intermediate treating of an applied coating preparatory to subsequent applications of liquids or other fluent materials (successively applying liquids or other fluent materials B05D 1/36; drying ovens F26B) [2]

Project: R-033 Subclass: B05D

We thank GB for the reordering proposed, and agree with the scheme.

A.Narminio

ANNEX 1

IPC	Maingroup Title
B07B 9/00	Combinations of apparatus for screening or sifting or for separating solids from solids using gas currents; General arrangement of plant, e.g. flow sheets
B07B 15/00	Combinations of apparatus for separating solids from solids by dry methods applicable to bulk material, e.g. loose articles fit to be handled like bulk material (using gas currents B07B 9/00; using wet methods B03B 7/00)
B07B 1/00	Sieving, screening, sifting, or sorting solid materials using networks, gratings, grids, or the like
B07B 4/00	Separating solids from solids by subjecting their mixture to gas currents (using tables or jigs B03B)
B07B 7/00	Selective separation of solid materials carried by, or dispersed in, gas currents (sieves or filters for separating dispersed particles from gases or vapours B01D)
B07B 11/00	Arrangement of accessories in apparatus for separating solids from solids using gas currents
B07B 13/00	Grading or sorting solid materials by dry methods, not otherwise provided for; Sorting articles otherwise than by indirectly controlled devices (grading eggs A01K 43/04)

Reasoning: combinations groups 9/00 and 15/00 have been promoted up the order.

Project: R-034 Subclass: B07B

We thank GB for the reordering proposed, and agree with the scheme proposed.

A.Narminio

US Proposal

April 1, 2003

Project: R 036/03**Subclass: B60B**Proposal for rearranged order of main groups:**VEHICLE WHEELS; CASTORS; AXLES; INCREASING WHEEL ADHESION**

IPC	Maingroup Title	Guideline
	CASTOR	1(b)
B60B 33/00	Castors in general (castors for large containers B65D 90/18)	1(b)
	COMBINED WHEEL-AXLE	1(b), 6(a)
B60B 37/00	Wheel-axle combinations, e.g. wheel sets (units comprising multiple wheels arranged side by side B60B 11/00; rail-vehicle axle-boxes B61F)	6(a)
	VEHICLE WHEEL	1(b), 1(c)
B60B 5/00	Wheels, spokes, disc bodies, rims, hubs, wholly or predominantly made of non-metallic material (wheel cover discs B60B 7/00; wheels of high resiliency B60B 9/00)	7(b)
B60B 15/00	Wheels or wheel attachments designed for increasing traction (vehicle tyres B60C; non-skid devices temporarily attachable to resilient tyres or resiliently-tyred wheels B60C 27/00)	7(b)
B60B 17/00	Wheels characterised by rail-engaging elements (of model railways A63H 19/22) [2]	7(b)
B60B 11/00	Units comprising multiple wheels arranged side by side; Wheels having more than one rim or capable of carrying more than one tyre	7(c)
B60B 1/00	Spoked wheels; Spokes thereof (non-metallic B60B 5/00) [2]	7(c)
B60B 3/00	Disc wheels, i.e. wheels with load-supporting disc body (non-metallic B60B 5/00; wheel cover discs B60B 7/00)	7(c)
B60B 9/00	Wheels of high resiliency	7(c)
B60B 23/00	Attaching rim to wheel body (attaching spokes to rim B60B 1/04, B60B 1/14; attaching rims resiliently to wheel body B60B 9/00)	7(c)
B60B 25/00	Rims built-up of several main parts (tools for assembling divided rims B60B 31/04)	7(c)
B60B 21/00	Rims (non-metallic B60B 5/00; of high resiliency B60B 9/00; capable of carrying more than one tyre B60B 11/04; multiple rims on single wheel body B60B 11/06; of multi-part type B60B 25/00; metal tyres B60C)	7(c)
B60B 27/00	Hubs (non-metallic B60B 5/00; of high resiliency B60B 9/00)	7(c)
B60B 7/00	Wheel cover discs, rings, or the like, for ornamenting, protecting, or obscuring, wholly or in part, the wheel body, rim, hub, or tyre sidewall [2,5]	8(a)
B60B 19/00	Wheels not otherwise provided for or having characteristics specified in one of the subgroups of this group	8(a)
	ASSEMBLING, MOUNTING, OR HOLDING WHEEL CATEGORY	1(b), 1(c)
B60B 31/00	Apparatus or tools for assembling or disassembling wheels	7(b)
B60B 29/00	Apparatus or tools for mounting or dismounting wheels (characterised by the means for holding the wheels B60B 30/00) [5]	7(b)
B60B 30/00	Means for holding wheels or parts thereof (spare wheel stowing, holding or mounting arrangements on vehicles B62D 43/00) [5]	7(b)
	INCREASING WHEEL ADHESION	1(b)
B60B 39/00	Increasing wheel adhesion (wheels or wheel attachments designed for increasing traction B60B 15/00; vehicle tyres B60C; non-skid devices temporarily attachable to resilient tyres or resiliently-tyred wheels B60C 27/00; road surface conditioning to prevent slipperiness E01C)	1(b)
	AXLE	1(b)
B60B 35/00	Axle units; Parts thereof (resilient suspension of a rigid axle or axle housing B60G 9/00; steerable vehicle stub-axles B62D)	1(b)

Comments:

Main group 33/00 is placed high in the schedule as a special wheel and axle assembly and because the rotating wheel often swivels about another axis.

Main group 5/00 is placed high in the schedule because it is special and if placed lower it won't collect art.

In main group 23/00, "Attaching" might include both product and method art so it is placed above other rim main groups 25/00 and 21/00 since it is more complex and one of its potential categories of invention is as a product.

Main group 7/00 includes accessories to a wheel.

Apparatus category main groups 29/00, 30/00, and 31/00 are grouped together and below the wheel (product category) main groups

Main group 19/00 is the residual for wheels only. Subgroups indented under it can be moved up higher in the schedule when creation of main groups for them is justified.

Main group 39/00 is considered an accessory to a wheel.

A residual main group is necessary since main group 19/00 is only residual for wheels. A residual for the entire subclass should be provided to cover other possible accessories, apparatus or methods related to B60B subject matter.

US Proposal

April 1, 2003

Project: R 037/03**Subclass: B60C**Proposal for rearranged order of main groups:

VEHICLE TYRES (manufacture, repairing B29); **TYRE INFLATION; TYRE CHANGING; CONNECTING VALVES TO INFLATABLE ELASTIC BODIES IN GENERAL; DEVICES OR ARRANGEMENTS RELATED TO TYRES** (testing of tyres G01M 17/02) [5]

IPC	Main group Title	Guideline
	VEHICLE TYRES	1(b)
B60C 23/00	Devices for measuring, signalling, controlling, or distributing tyre pressure or temperature, specially adapted for mounting on vehicles (measuring in general G01, e.g. G01L 17/00; remote signalling in general G08); Arrangement of tyre inflating devices on vehicles, e.g. of pumps, of tanks (air pumps per se F04; tanks per se F17C); Tyre cooling arrangements [3]	7(b)
B60C 17/00	Tyres characterised by means enabling restricted operation in damaged or deflated condition; Accessories therefor (having multiple separate inflatable chambers B60C 5/20)	7(b)
B60C 1/00	Tyres characterised by the chemical composition or the physical arrangement or mixture of the composition [4]	7(b)
B60C 3/00	Tyres characterised by transverse section (characterised by rail-engaging elements B60B 17/00) [4]	7(b)
B60C 9/00	Reinforcements or ply arrangement of pneumatic tyres (inserts having reinforcing means B60C 5/08; bead structure, e.g. turnup or overlap construction, B60C 15/00; tyre cords per se D02G 3/48; fabrics per se D03D, D04H; metal ropes or cables, per se D07B 1/06) [4]	7(b)
B60C 11/00	Tyre tread bands; Tread patterns; Anti-skid inserts	7(b)
B60C 13/00	Tyre sidewalls; Protecting, decorating, marking, or the like, thereof (B60C 17/08 takes precedence; tyre shoulders B60C 11/01; removable tyre sidewall trim rings B60B 7/01) [4,5]	7(b)
B60C 15/00	Tyre beads, e.g. ply turn-up or overlap	7(b)
B60C 7/00	Non-inflatable or solid tyres (B60C 1/00 takes precedence; tyres or rims characterised by rail-engaging elements B60B 17/00) [2]	7(c)
B60C 5/00	Inflatable pneumatic tyres or inner tubes (B60C 1/00, B60C 9/00 to B60C 17/00 take precedence) [4]	7(c)
B60C 27/00	Non-skid devices temporarily attachable to resilient tyres or resiliently-tyred wheels	8(a)
B60C 19/00	Tyre parts or constructions not otherwise provided for	8(a)
	INFLATING VALVE ARRANGEMENTS RELATIVE TO ELASTIC BODIES, E.G., TYRES	1(b),
B60C 29/00	Arrangements of tyre-inflating valves to tyres or rims; Accessories for tyre-inflating valves, not otherwise provided for (tools for mounting or demounting valves B60C 25/18; valves per se, valve dust caps F16K) [4,5]	7(b)
	APPARATUS OR TOOLS	1(b),
B60C 25/00	Apparatus or tools adapted for mounting, removing or inspecting tyres (apparatus or tools characterised by the means for holding wheels or parts thereof B60B 30/00) [5]	7(b)

Comments:

Main group 23/00 includes tyre inflating device arrangements that could go lower in the schedule, but measuring, controlling, signalling, aspects of 23/00 warrant higher placement

Main group 1/00 is special and is placed high in schedule to collect art.

Main groups 1/00 and 9/00-17/00 take precedence over 5/00.

Main group 1/00 also takes precedence over 7/00.

Main groups 3/00, 9/00, 11/00, 13/00 and 15/00 must precede main groups 7/00 and 5/00 in order to collect art since there is no single "Vehicle tyre" main group encompassing all vehicle tyres.

Main group 7/00 precedes 5/00 as it is believed to be the larger system and not limited to a single type of tyre.

Main group 27/00 is located below main groups 7/00 and 5/00 since its anti-skid devices are accessories that can be used with all types of tyres without special adaptation of the tyres. Main group 27/00 must also be located below main group 11/00 since tyres that have been specially adapted for removable non-skid or anti-skid devices are provided for in main group 11/00.

Main group 19/00 was located below main group 27/00 because it is residual for tyres.

Main group 29/00 encompasses valve arrangements for all elastic bodies. Tyres are one type. It is placed low in the schedule to avoid any possible conflicts with 23/00 under tyres.

Main group 25/00 are apparatus used in cooperation with tyres

A residual main group is recommended since 19/00 is residual only for tyres. Other specialized tyre perfecting features, cooperating apparatus, etc. need a location to be collected. In addition to this, the scope of the subclass title terminology "**CONNECTING VALVES TO INFLATABLE ELASTIC BODIES IN GENERAL**" is broader than that of the related main groups for this type subject matter.

US Proposal

27 March 2003

Project: R038/03**Subclass: B60D**Proposal for rearranged order of main groups:

<u>B 60 D</u>	VEHICLE CONNECTIONS (components of brake systems B60T 17/04)	
IPC	Main group Title	Guideline
B60D 5/00	Gangways for coupled vehicles, e.g. of concertina type	4
B60D 1/00	Traction couplings; Hitches; Draw-gear; Towing devices (devices specially adapted for connection between tractors and agricultural machines or implements A01B 59/00; fifth-wheel couplings B62D) [2]	7b
B60D 3/00	Fittings to facilitate pushing (B60D 1/00 takes precedence; vehicle bumpers B60R 19/02; steering arrangements for backing a normally-drawn trailer B62D 13/06)	7b
B60D 7/00	Other connections	9

Comments:

5/00 bridge or conduit for egress from one vehicle to another.

1/00 “pull-type” connections.

3/00 “push-type” connections must follow 1/00 because of precedence.

7/00 covers remaining (residual) connections.

No additional residual main group required.

US Proposal

27 March 2003

Project: R039/03**Subclass: B60F**Proposal for rearranged order of main groups:

<u>B 60 F</u>	VEHICLES FOR USE BOTH ON RAIL AND ON ROAD; AMPHIBIOUS OR LIKE VEHICLES; CONVERTIBLE VEHICLES (air-cushion vehicles B60V)	
IPC	Main group Title	Guideline
B60F 3/00	Amphibious vehicles, i.e. vehicles capable of travelling both on land and on water; Land vehicles capable of travelling under water (buoyant wheels B60B)	5c, 1b
B60F 1/00	Vehicles for use both on rail and on road; Conversions therefor	5c, 1b
B60F 5/00	Other convertible vehicles, i.e. vehicles capable of travelling in or on different media (vehicles having alternatively-usable runners and wheels B62B 13/18; cycles convertible into other types of land vehicles B62K 13/00; aircraft B64; flying-boats or seaplanes B64C)	9a

Comments:

3/00 land and aquatic vehicles.

1/00 rail and overland vehicles.

5/00 cover all other types of convertible vehicles (residual).

No additional residual main group required since main groups exhaust scope of subclass title.

US Proposal

21 March 2003

Project: R040/03**Subclass: B60G**Proposal for rearranged order of main groups:

<u>B 60 G</u>	VEHICLE SUSPENSION ARRANGEMENTS (air-cushion vehicles B60V ; connections between vehicle bodies and vehicle frames B62D 24/00) [5]	
IPC	Main group Title	Guideline
B60G 23/00	Wheel suspensions with automatic means for sensing unevenness ahead of wheels or for moving wheels up or down in accordance therewith	4
B60G 21/00	Interconnection systems for two or more resiliently-suspended wheels, e.g. for stabilising a vehicle body with respect to acceleration, deceleration or centrifugal forces (B60G 17/033 takes precedence; steering deflectable wheels combined with means for inwardly inclining the vehicle body on bends B62D 9/02) [5]	6
B60G 17/00	Resilient suspensions having means for adjusting the spring or vibration-damper characteristics, for regulating the distance between a supporting surface and a sprung part of vehicle or for locking suspension during use to meet varying vehicular or surface conditions, e.g. due to speed or load [5]	7b
B60G 5/00	Resilient suspensions for a set of tandem wheels or axles having interrelated movements	7c
B60G 9/00	Resilient suspensions for a rigid axle or axle housing for two or more wheels	7c
B60G 3/00	Resilient suspensions for a single wheel (pivoted suspension arms per se, attachment thereof to sprung part of the vehicle, buffer means for limiting movement of arms B60G 7/00; characterised by arrangement, location, or type of springs B60G 11/00)	7c
B60G 15/00	Resilient suspensions characterised by arrangement, location, or type of combined spring and vibration- damper, e.g. telescopic type (combined spring and vibration-dampers per se F16F) [5]	7c
B60G 13/00	Resilient suspensions characterised by arrangement, location, or type of vibration-dampers (adjusting damping effect B60G 17/06; vibration-dampers per se F16F)	7c
B60G 11/00	Resilient suspensions characterised by arrangement, location, or kind of springs (single-wheel suspension by pivoted arm resilient in itself B60G 3/00; adjusting spring characteristic B60G 17/00; springs per se F16F)	7c
B60G 1/00	Suspensions with rigid connection between axle and frame	7b
B60G 7/00	Pivoted suspension arms; Accessories thereof (means for maintaining substantially-constant wheel camber during suspension movement B60G 3/26)	7b
B60G 25/00	Other suspension arrangements	9a

Comments:

23/00 senses the road not yet encountered.

21/00 two or more interconnected systems

17/00 systems operation responsive to vehicular or road conditions.

5/00 suspension for multiple axles

9/00 suspension for single axle connecting two wheels

3/00 suspension for single wheel

15/00 spring and damper specified

13/00 only damper specified

11/00 only spring specified

1/00 rigid suspensions (exclusive of resilient suspensions, and less complex)
7/00 linkage type suspensions or linkages or parts thereof used with other types suspensions
25/00 covers residual suspensions

No additional residual main group is required.

US Proposal

3 April 2003

Project: R041/03**Subclass: B60H**Proposal for rearranged order of main groups:

B60H **ARRANGEMENTS OR ADAPTATIONS OF HEATING, COOLING, VENTILATING,
OR OTHER AIR-TREATING DEVICES SPECIALLY FOR PASSENGER OR GOODS
SPACES OF VEHICLES**

IPC	Main group Title	Guideline
	Air treating devices per se other than heating, cooling, or ventilating devices; Other-type air treating devices combined with heating, cooling, or ventilating devices	
B60H 3/00	Other air-treating devices	In reality 3a, 6a
	Heating, cooling, or ventilating devices per se or combined with each other	
B60H 1/00	Heating, cooling or ventilating devices (heating, cooling or ventilating devices providing other air treatment, the other treatment being relevant, B60H 3/00; ventilating solely by opening windows, doors, roof parts, or the like B60J; heating or ventilating devices for vehicle seats B60N 2/56; vehicle window or windscreen cleaners using air, e.g. defrosters, B60S 1/54) [4]	7a

Comments:

Main group 3/00 is placed first in the scheme since it also covers “other-type” air treating devices combined with air treating devices appropriate for main group 1/00. Under existing IPC practice for best-fit schemes, the title of group 3/00 is properly interpreted as “Other-type air treating devices per se; Other-type air treating devices combined with heating, cooling, or ventilating”. A two-part title interpretation is needed to properly define the main group’s scope and the use of such a title would eliminate the need for the 1st reference in main group 1/00. The Revision Working Group may wish to consider altering the title of main group 3/00 in the future or converting this scheme to a “first-place priority rule” scheme to avoid any user misunderstanding.

A new residual main group may be needed for this subclass because the scope of main groups 1/00 and 3/00 does not entirely exhaust the subject matter potentially covered by the subclass title. Several potential adaptations to vehicles for these devices are not explicitly covered or referenced. For example, the reference to B60P 3/20 removes vehicles adapted to transport refrigerated goods, but no reference removes vehicles adapted to transport heated or warmed goods.

US Proposal

2 April 2003

Project: R042/03**Subclass: B60J**Proposal for rearranged order of main groups:

B60J	WINDOWS, WINDSCREENS, NON-FIXED ROOFS, DOORS, OR SIMILAR DEVICES <i>SPECIALLY ADAPTED</i> FOR VEHICLES; PROTECTIVE COVERINGS FOR VEHICLES NOT IN USE (fastening, suspending, closing, or opening of such devices E05)	<i>New 1 Note Limits to Specially Adapted</i>
IPC	Main group Title	Guideline
B60J 3/00	Antiglare equipment associated with windows or windscreens (optical viewing arrangements for vehicles B60R 1/00); Sun visors for vehicles (sun visors having appliances for stowing or holding personal property B60R 7/05) [2,5]	1b, 4
B60J 10/00	Sealing arrangements (sealings in general F16J 15/00) [5]	1b, 7b
B60J 1/00	Windows; Windscreens; Accessories therefor (B60J 10/00 takes precedence; air curtains instead of windows B60J 9/04) [4,5]	1b, 7b
B60J 5/00	Doors (B60J 10/00 takes precedence; window aspects B60J 1/00) [5]	1b, 7b
B60J 7/00	Non-fixed roofs; Roofs with movable panels (B60J 10/00 takes precedence; window aspects B60J 1/00; fixed roofs B62D 25/06; mechanisms for operating wings E05F 11/00, E05F 15/00) [4,5]	1b, 7b
B60J 9/00	Devices not provided for in one of the preceding main groups (B60J 10/00 takes precedence) [3,5]	8a
Vehicle Covers		
B60J 11/00	Protective coverings for vehicles not in use (tent-like garages E04H)	1b

Comments:

Main group 3/00 contains highly specialized invention subject matter, thus it is placed first.

Main groups 1/00, 5/00, and 7/00 each state that 10/00 takes precedence. 10/00 seems suitably positioned directly above these subclasses

Main group 1/00 is placed next since 'window aspect' is excluded from main groups 5/00 and 7/00.

Main group 9/00 covers the remaining 'similar' devices for this part of the subclass title and is placed last in the first section of the scheme as its residual main group.

No residual subclass is needed since its main groups exhaust the scope of the subclass.

US Proposal

2 April 2003

Project: R043/03**Subclass: B60K**Proposal for rearranged order of main groups:

B 60 K ARRANGEMENT OR MOUNTING OF PROPULSION UNITS OR OF TRANSMISSIONS IN VEHICLES; ARRANGEMENT OR MOUNTING OF PLURAL DIVERSE PRIME-MOVERS; AUXILIARY DRIVES; INSTRUMENTATION OR DASHBOARDS FOR VEHICLES; CONJOINT CONTROL OF DRIVE UNITS; ARRANGEMENTS IN CONNECTION WITH COOLING, AIR INTAKE, GAS EXHAUST, OR FUEL SUPPLY, OF PROPULSION UNITS, IN VEHICLES

IPC	Main group Title	Guideline
	CONTROL OF PROPULSION UNIT	1c
B60K 41/00	Conjoint control of drive units; Conjoint control of at least two sub-units thereof (arrangement or mounting of plural diverse prime-movers for mutual or common propulsion B60K 6/00) [2,5]	4
B60K 28/00	Safety devices for propulsion-unit control, specially adapted for, or arranged in, vehicles, e.g. preventing fuel supply or ignition in the event of potentially dangerous conditions (for electrically-propelled vehicles B60L 3/00) [2]	4
B60K 31/00	Vehicle fittings for automatically controlling vehicle speed, i.e. preventing speed from exceeding an arbitrarily established velocity or maintaining speed at a particular velocity, as selected by the vehicle operator (B60K 41/00 takes precedence; propulsion-unit control in general, see the relevant classes or subclasses, e.g. F02D; speedometers G01P; systems or devices for controlling speed in general G05D 13/00) [2]	5a
	AUXILIARY DRIVES	1c
B60K 25/00	Auxiliary drives (B60K 16/00 takes precedence; arrangement of tyre-inflating pumps mounted on vehicles B60C 23/10; driving engine auxiliaries F02B) [5]	7a
	ARRANGEMENT OR MOUNTING OF POWER SUPPLY FOR PROPULSION UNIT	1c
B60K 16/00	Arrangements in connection with power supply from force of nature, e.g. sun, wind (electric propulsion with power supply from force of nature, e.g. sun, wind, B60L 8/00; effecting propulsion by wind motors driving water-engaging propulsive elements B63H 13/00) [5]	4
	ARRANGEMENT OR MOUNTING OF PROPULSION UNIT OR TRANSMISSIONS	1c
B60K 6/00	Arrangement or mounting of plural diverse prime-movers for mutual or common propulsion, e.g. hybrid propulsion systems comprising electrical and internal combustion motors [5]	4, 6a
B60K 7/00	Disposition of motor in, or adjacent to, traction wheel (roller-skate driving mechanisms A63C 17/12)	7c
B60K 1/00	Arrangement or mounting of electrical propulsion units (B60K 7/00 takes precedence; arrangement or mounting of plural diverse prime-movers for mutual or common propulsion B60K 6/00; electric transmission arrangements B60K 17/12; electric equipment or propulsion of electrically-propelled vehicles per se B60L; current-collectors for power supply lines of electrically-propelled vehicles B60L 5/00) [5]	7c
B60K 5/00	Arrangement or mounting of internal-combustion or jet-propulsion units (B60K 7/00 takes precedence; arrangement or mounting of plural diverse prime-movers for mutual or common propulsion B60K 6/00) [5]	7c

B60K 3/00	Arrangement or mounting of steam or gaseous- pressure propulsion units (B60K 7/00 takes precedence; arrangement or mounting of plural diverse prime-movers for mutual or common propulsion B60K 6/00; gaseous-pressure transmission arrangements B60K 17/10) [5]	7c
B60K 8/00	Arrangement or mounting of propulsion units not provided for in one of the preceding main groups [5]	7c
B60K 17/00	Arrangement or mounting of transmissions in vehicles (clutches per se, e.g. construction thereof, F16D; gearing per se, e.g. construction thereof, F16H) [2]	7b
	ARRANGMENTS OF COOLING, AIR, EXHAUST, OR FUEL	1c
B60K 11/00	Arrangement in connection with cooling of propulsion units (heating the interior space B60H; cooling internal combustion engines per se F01P)	7c
B60K 13/00	Arrangement in connection with combustion air intake or gas exhaust of propulsion units (forming part of the engine F01N; supplying combustion engines with combustible mixtures or constituents F02M)	7c
B60K 15/00	Arrangement in connection with fuel supply of combustion engines; Mounting or construction of fuel tanks (tanks in general B65D, F17C; supplying combustion engines with combustible mixtures or constituents F02M) [5]	7c
	DASHBOARDS AND ARRANGEMENT OR MOUNTING OF CONTROL DEVICES OR INSTRUMENTS	1c
B60K 26/00	Arrangement or mounting of propulsion-unit control devices in vehicles (movable cabs having special adaptations of vehicle control devices B62D 33/073) [2,5]	7b
B60K 20/00	Arrangement or mounting of change-speed gearing control devices in vehicles (B60K 41/00 takes precedence; movable cabs having special adaptations of vehicle control devices B62D 33/073; such control devices per se F16H) [2,5]	7c
B60K 23/00	Arrangement or mounting of control devices for vehicle transmissions, or parts thereof, not otherwise provided for (B60K 41/00 takes precedence; movable cabs having special adaptations of vehicle control devices B62D 33/073; such control devices per se F16D, F16H) [2,5]	7c
B60K 35/00	Arrangement or adaptations of instruments (arrangements on dashboard B60K 37/02)	7b
B60K 37/00	Dashboards (as road-vehicle superstructure sub-unit B62D)	7b

Comments:

This was a very difficult area to rearrange since many of the main groups seemed to be outside the scope of the subclass title. Thus the reorganization does not easily flow from the multipart subclass title.

Basically arranged in the order of propulsion unit control (most complex) to auxiliary drives to arrangement and mountings of propulsion units and other components.

In the section for propulsion units, group 7/00 was place just after group 6/00 in this section because it may include any type of traction motor and its wheel location is special. Group 1/00 was placed next because it is entirely distinct from the other types of propulsion. Group 5/00 is placed before group 3/00 because its jet engine is a type of turbine powered by internally heated gas and the other types of turbines are covered in 3/00. Group 17/00 is placed last in this section since it is a different function and can be used with any type propulsion unit.

In the section for cooling, air, exhaust, and fuel arrangements or mounting the existing order was maintained since the groups are mutually exclusive.

Many of the sections are not exhaustive, so there is a real need here for a “not otherwise provided for” classification at the end of the schedule

US Proposal

3 April 2003

Project: R053/03**Subclass: B60L**Proposal for rearranged order of main groups:

B60L **ELECTRIC EQUIPMENT OR PROPULSION OF ELECTRICALLY-PROPELLED VEHICLES; MAGNETIC SUSPENSION OR LEVITATION FOR VEHICLES; ELECTRODYNAMIC BRAKE SYSTEMS FOR VEHICLES, IN GENERAL** (electric coupling devices combined with mechanical couplings of vehicles B60D 1/62; electric heating for vehicles B60H; arrangements or mounting of electrical propulsion units in vehicles B60K 1/00; arrangements or mounting of electric gearing in vehicles B60K 17/12, B60K 17/14; auxiliary drives on vehicles B60K 25/00; arrangement of signalling or lighting devices, the mounting or supporting thereof or circuits therefor, for vehicles in general B60Q; vehicle brake control systems in general B60T; preventing wheel slip by reducing power in rail vehicles B61C; railway track circuits in general B61L; lighting in general F21, H05B; switches in general H01H; coupling devices for electric connections in general H01R; dynamo-electric machines H02K; electric converters H02M; starting, controlling, braking of electric machines or converters in general H02P; electric heating in general H05B) [4]

IPC	Maingroup Title	Guideline
	ELECTRIC PROPULSION	1b
B60L 8/00	Electric propulsion with power supply from force of nature, e.g. sun, wind [5]	4
B60L 13/00	Electric propulsion for monorail vehicles, suspension vehicles or rack railways; Magnetic suspension or levitation for vehicles (electromagnetics per se H01F 7/06; linear motors per se H02K 41/00) [4,6]	4, 1a
B60L 15/00	Methods, circuits, or devices for controlling the traction-motor speed of electrically-propelled vehicles	7b
B60L 9/00	Electric propulsion with power supply external to vehicle (B60L 8/00, B60L 13/00 take precedence) [5,6]	7c
B60L 11/00	Electric propulsion with power supplied within the vehicle (B60L 8/00, B60L 13/00 take precedence; arrangement or mounting of plural diverse prime-movers for mutual or common propulsion B60K 6/00) [5,6]	7c
	OTHER ELECTRIC DEVICES	
B60L 3/00	Electric devices on electrically-propelled vehicles for safety purposes; Monitoring operating variables, e.g. speed, deceleration, power consumption (measuring in general G01)	8a
B60L 5/00	Current-collectors for power supply lines of electrically-propelled vehicles (current-collectors in general H01R 41/00)	8a
B60L 1/00	Supplying electric power to auxiliary equipment of vehicles (circuit arrangements for charging batteries H02J 7/00) [6]	8a
	ELECTRODYNAMIC BRAKE SYSTEMS	1b
B60L 7/00	Electrodynamic brake systems for vehicles in general [4]	7

Comments:

- This subclass can be broken into two parts of its three-part title (electrodynamic braking can be separated)
- The first part can be divided into electric propulsion related and other electronic devices

- A residual is needed (at least to accommodate unprovided for devices)

US Proposal

3 April 2003

Project: R045/03**Subclass: B60M**Proposal for rearranged order of main groups:

B60M **POWER SUPPLY LINES, OR DEVICES ALONG RAILS, FOR ELECTRICALLY-PROPELLED VEHICLES** (control of points or safety arrangements along railway lines B61L; construction of rails or points in general E01B)

IPC	Main group Title	Guideline
B60M 3/06	Arrangements for consuming regenerative power	3b, 4
B60M 7/00	Power lines or rails specially adapted for electrically-propelled vehicles of special types, e.g. suspension tramway, ropeway, underground railway	4
B60M 3/00	Feeding power to the supply lines in contact with collector on vehicles; (controlling rail vehicles by varying voltage of power fed to vehicle B60L; power distribution in general H02J)	3b, 5
B60M 1/00	Power supply lines for contact with collector on vehicle (collectors therefor B60L 5/00)	7
B60M 5/00	Arrangements along running rails or at joints thereof for current-conduction or insulation, e.g. safety devices for reducing earth currents (insulating rail joints E01B 11/54; conductive connections between rails in general H01R 4/00, e.g. H01R 4/64)	9a

Comments:

Group 3/06 is distinctive subject matter that is not within the scope of the subclass title.

Group 5/00 is a detail or component (safety device is mentioned as an example only)

A residual group should be added for other details or components.

US Proposal

3 April 2003

Project: R046/03**Subclass: B60N**Proposal for rearranged order of main groups:**B60N VEHICLE PASSENGER ACCOMMODATION NOT OTHERWISE PROVIDED FOR** (furniture construction A47)

IPC	Main group Title	Guideline
B60N 5/00	Arrangements or devices on vehicles for entrance or exit control of passengers, e.g. turnstiles (turnstiles in general E06B 11/08) [2]	7b
B60N 2/00	Seats specially adapted for vehicles; Arrangement or mounting of seats in vehicles (for facilitating access of invalids to, or exit of invalids from, vehicles A61G 3/02; railway seats B61D 33/00; cycle seats B62J 1/00; aircraft seats B64D 11/06, B64D 25/04, B64D 25/10) [5]	7b
B60N 3/00	Arrangements or adaptations of other passenger fittings, not otherwise provided for (of radio sets, television sets, telephones, safety belts, or the like B60R)	7b, 9a

Comments:

Group 5/00 appears to be a more specialized function even though it is structurally less complex than most of the structure covered by group 2/00. Since doors are covered elsewhere, the devices covered by group 5/00 should normally be a more special than a mere gating function. In addition to this, if group 2/32 is placed before group 5/00, group 2/32 would cover the combination of the subject matter of groups 5/00 and 2/00 which is not now positively covered there.

Main group 3/00 has the most general scope. It is residual for passenger fittings not otherwise provided for.

A residual main group may be needed because of 3/00 is limited to “other fittings not otherwise provided for” which is narrower in scope than the subclass restriction “accommodation not otherwise provided for”.

US Rapporteur Proposal

27 March 2003

Project: R047/03**Subclass: B60P**Proposal for rearranged order of main groups:

B60P **VEHICLES ADAPTED FOR LOAD TRANSPORTATION OR TO TRANSPORT, TO CARRY, OR TO COMPRISE SPECIAL LOADS OR OBJECTS** (vehicles with special provisions for invalids A61G 3/00)

IPC	Main group Title	Guideline
B60P 5/00	Arrangements of weighing machines on vehicles (adapting weighing machines to use on transport vehicles G01G 19/08)	4
B60P 1/00	Vehicles predominantly for transporting loads and modified to facilitate loading, consolidating the load, or unloading (vehicles for carrying harvested crops with means for self-loading or self-unloading A01D 90/00; peculiar to refuse-collecting-vehicles B65F; loading or unloading vehicles by means not incorporated therein B65G)	5
B60P 3/00	Vehicles adapted to transport, to carry or to comprise special loads or objects (ambulance aspects, vehicles with special provisions for invalids A61G 3/00; hearses A61G 21/00; fire-fighting land vehicles A62C 27/00; refuse-collecting vehicles B65F 3/00, B65F 7/00; snow-removing vehicles E01H; armoured or armed vehicles F41H 7/00; self-propelled mine-clearing vehicles F41H 11/16)	7(c)
B60P 9/00	Other vehicles predominantly for carrying loads	7(c)
B60P 7/00	Securing or covering of load on vehicles	9a

Comments:

- 5/00 covers transporting arrangements of weighing machines which are highly specialized “special object”.
- 1/00 covers vehicles combines with loading and unloading means (e.g., conveyers) normally proper for a material handling subclass.
- 3/00 covers vehicles specially adapted for transporting specialized types of loads or objects.
- 9/00 covers vehicles used predominantly for general load type transport and residual types of transporting vehicles.
- 7/00 covers particular types of details, components, accessories, and ancillary devices.

A new residual main group may be needed. Groups 1/00, 3/00, and 9/00 appear to exhaust subclass title so far as the load transporting vehicles themselves is concerned. However, only some of the types of details, components, accessories, and ancillary devices that may be used in two or more of these main groups are covered by main group 7/00.

US Rapporteur Proposal

27 March 2003

Project: R048/03**Subclass: B60Q**Proposal for rearranged order of main groups:

B60Q **ARRANGEMENT OF SIGNALLING OR LIGHTING DEVICES, THE MOUNTING OR SUPPORTING THEREOF OR CIRCUITS THEREFOR, FOR VEHICLES IN GENERAL** (arrangement of signalling or lighting devices, the mounting or supporting thereof, for rail vehicles B61D, for cycles B62J, for ships B63B, for aircraft B64D; lighting in general, lighting devices *per se* F21, H05B; signalling in general G08; electric switches *per se* H01H [4])

IPC	Main group Title	Guideline
B60Q 11/00	Arrangement of monitoring devices for devices provided for in groups B60Q 1/00 to B60Q 9/00 [2]	5a
B60Q 7/00	Arrangement or adaptation of portable emergency signal devices on vehicles (arrangements for enforcing caution on roads, e.g. marker posts, E01F 9/00; signs G09F, e.g. reflecting warning triangles G09F 13/16)	7a
B60Q 3/00	Arrangement of lighting devices for vehicle interior , the mounting or supporting thereof or circuits therefor [4]	7a, 7c
B60Q 1/00	Arrangement of optical signalling or lighting devices, the mounting or supporting thereof or circuits therefor (for lighting vehicle interior B60Q 3/00) [4]	7a, 7c
B60Q 5/00	Arrangement or adaptation of acoustic signal devices	7a, 7b
B60Q 9/00	Arrangement or adaptation of signal devices not provided for in one of the preceding main groups	7b

Comments:

Group 11/00 covers the combination of monitoring with the lighting or signalling devices of the other main groups.

Group 7/00 covers portable emergency signalling devices that are of any type (e.g., optical, acoustic). This group requires both a highly specialized use of the basic signalling subject matter (emergency only) and a portable type structure.

Group 3/00 covers only “interior” lighting devices and is therefore more restrictive or specialized than the general lighting of group 1/00.

Group 1/00 covers both “exterior” lighting devices (since 3/00 takes all interior lighting) and interior or exterior optical-type signalling.

Group 5/00 covers only acoustic type signalling devices which are normally less complex than optical signalling devices.

Group 9/00 covers and is residual for ‘other’ types of signalling devices.

A residual group may be needed. Main groups 1/00 and 3/00 exhausts subject matter specified by the subclass for lighting and optical signalling. However, this subject matter is not exhausted for other types of signalling. For example the mounting or supporting of these other devices is not clearly covered. Circuits for other types signalling devices and alternative types of signalling devices are not covered. In addition, the mounting or supporting of general signalling devices is not covered.

US Rapporteur Proposal

27 March 2003

Project: R050/03**Subclass: B60S**Proposal for rearranged order of main groups:**B60S SERVICING, CLEANING, REPAIRING, SUPPORTING, LIFTING, OR
MANOEUVRING OF VEHICLES, NOT OTHERWISE PROVIDED FOR**

IPC	Main group Title	Guideline
Servicing or Modifying Vehicles		
B60S 5/00	Servicing, maintaining, repairing, or refitting of vehicles (vehicles adapted to carry a workshop for servicing or maintenance B60P 3/14; servicing rail locomotives B61K)	7a
Supporting, Lifting, or Manoeuvring Vehicles		
B60S 13/00	Vehicle-manoeuving devices separate from the vehicle (vehicle-lifting or pushing devices B66F)	5a
B60S 9/00	Ground-engaging vehicle fittings for supporting, lifting, or manoeuvring the vehicle, wholly or in part, e.g. built-in jacks (lifting devices in general B66F; supports in general F16M)	7c
B60S 11/00	Vehicle modifications for receiving separate lifting, supporting, or manoeuvring devices	7c
Cleaning Vehicles		
B60S 3/00	Vehicle cleaning apparatus not integral with vehicles (cleaning in general B08B; cleaning peculiar to waterborne vessels B63B 57/00, B63B 59/00; ground equipment for cleaning aircraft B64F 5/00)	5a
B60S 1/00	Cleaning of vehicles (by apparatus not integral with vehicle B60S 3/00; cleaning in general B08B; de-icing of aircraft B64D; heating arrangements specially adapted for transparent or reflecting areas H05B 3/84)	7a

Comments:

The main groups are collected together based on their function, but reordered by complexity/importance (i.e., alterations to is above lifting or manoeuvring which is above cleaning).

Group 5/00 is placed 1st since it can cover significant alterations to the structure of vehicles (i.e., refitting) as shown by JP F-terms.

The main groups covering supporting, lifting, or manoeuvring of vehicles are placed next since they handle vehicles as a load (i.e., they cover forms of material handling). Within the lifting/manoeuvring groups, 13/00 covers subject matter outside the Class of Vehicles (B66F) or that may be viewed as 'small' vehicle themselves (e.g., wheeled jacks), so it takes precedence over main group 9/00 type vehicles that are combined with lifting or manoeuvring means that are components. Group 9/00 takes precedence over group 11/00 covering mere cooperating modifications to vehicles.

The main groups covering cleaning are placed last since this function merely temporarily enhances the appearance of vehicles. Within the cleaning group, main group 3/00 covers cleaning apparatus outside the Class of Vehicles (washing machines) and should take precedence over the more general cleaning apparatus for vehicle covered by 1/00.

It would appear that a residual main group is not necessary since the subject matter covered by the main groups appears to exhaust, or even exceed, the scope of the title of the subclass.

During standard maintenance, the Revision Working Group may want to consider narrowing the scope of main group 5/00 or using different terminology. Refitting a vehicle can be very close conceptually to assembling, disassembling, or reassembling a vehicle during production. In addition, cleaning is a form of cosmetic maintenance.

Example 3 - Approved Top-down Sequence for B61L

GUIDING RAILWAY TRAFFIC: ENSURING THE SAFETY OF RAILWAY TRAFFIC

- 27/00 Central traffic control systems [Step 7b]
- 21/00 Station blocking between signal boxes in one yard [Step 7b]
- 17/00 Switching systems for classification yards [Step 7b]
- 23/00 Control, warning, or like safety means along the route or between vehicles or vehicle trains [Step 7b]
- 25/00 Recording or indicating positions or identities of vehicles or vehicle trains or setting of track apparatus [Step 7b]
- 3/00 Devices along the route for controlling devices on the vehicle or vehicle train, e.g. to release brake, to operate a warning signal [Step 7b]
- 11/00 Operation of points from the vehicle or by the passage of the vehicle [Step 7b]
- 13/00 Operation of signals from the vehicle or by the passage of the vehicle [Step 7b]
- 1/00 Devices along the route controlled by interaction with the vehicle or vehicle train [Step 7b]
- 7/00 Remote control of local operating means for points, signals, or track-mounted scotch-blocks (11/00 takes precedence) [Step 7b]
- 5/00 Local operating mechanisms for points or track-mounted scotch-blocks; Visible or audible signals; Local operating mechanisms for visible or audible signals (11/00 takes precedence) [Step 3a, 7b]
- 19/00 Arrangements for interlocking between points and signals by means of a single interlocking device [Step 7b]
- 15/00 Indicators provided on the vehicle or vehicle train for signaling purposes [Step 7b]
- 29/00 Safety means for rail/road crossing traffic [Step 8b]
- 9/00 Illumination specially adapted for points, form signals, or gates [Step 8b]
- ?/00 New residual main group needed. [Step 10]

Reasons for suggested order of IPC main groups:

Central or system train control

- 27/00 Central traffic control – most comprehensive, complex
- 21/00 Station blocking between signal boxes in one yard – control and release of route, space between trains
- 17/00 Switching systems for classification yards – indicating track filling; (ECLA - signaling; brake devices)
- 23/00 Control, warning, safety means – control of train along route
- 25/00 Train position indication – multiple train, overall view

Interaction with train

- 3/00 Route devices control train devices – control of train, can shut off electric motors
- 11/00 Train interaction controls points (switch)
- 13/00 Operation of signals from the vehicle or by the passage of the vehicle
- 1/00 Train interaction controls route devices – control of route devices (refers to 11/00, 13/00)

Remote control of route devices, including points (switches)

7/00 Remote control of points, signals, blocks (11/00 takes precedence)

Points – operation, interlocks

5/00 Local operating mechanisms for points or track-mounted scotch-blocks; visible or audible signals (11/00 takes precedence)

19/00 Arrangements for interlocking between points and signals by means of a single interlocking device

Signals

15/00 Indicators on train for signaling – including between carriages

Other

29/00 Safety means for rail/road crossing traffic – includes non-train traffic

9/00 Illumination

US Rapporteur Proposal

10 March 2003

Project: R053/03**Subclass: B66B**Proposal for rearranged order of main groups:

IPC	Maingroup Title	Guideline
	Elevators	Step 1b
B66B 17/00	Hoistway equipment (specialized function elevators - limited to mines)	Step 7b
B66B 15/00	Main component parts of mining-hoist winding devices	Step 8a
B66B 19/00	Mining-hoist operation (methods of making or repairing hoist)	Steps 7b, 2c
B66B 1/00	Control systems of elevators in general (safety devices B66B 5/00; controlling door or gate operation B66B 13/00) (special elevators characterized by control of their movement)	Step 7c
B66B 9/00	Kinds or types of lift in, or associated with, buildings or other structures (characterised by control systems B66B 1/00)	Step 7c
B66B 5/00	Applications of checking, fault-correcting, or safety devices (to lift doors or gates B66B 13/00) (5/00 is most specialized detail since 3/00 could form a part of it)	Step 8a
B66B 3/00	Applications of devices for indicating or signalling operating conditions	Step 8a
B66B 13/00	Doors, gates, or other apparatus controlling access to, or exit from, cages or lift-well landings (a special of main component parts)	Step 8a
B66B 11/00	Main component parts of lifts in, or associated with, buildings or other structures (general group for primary components)	Step 8a
B66B 7/00	Other common features of elevators (secondary or residual general components of elevator)	Step 8a
	Escalators or Moving Walkways	Step 1b
B66B 25/00	Control of escalators or moving walkways (walkways of variable speed type B66B 21/12; handrails of variable speed type B66B 23/26) (characterized by control for their movement)	Step 7c
B66B 21/00	Kinds or types of escalators or moving walkways [4]	Step 7c
B66B 29/00	Safety devices of escalators or moving walkways (walkways of variable speed type B66B 21/12; handrails of variable speed type B66B 23/26) (most specialized detail since 27/00 could form a part of it)	Step 8a
B66B 27/00	Indicating operating conditions of escalators or moving walkways	Step 8a
B66B 23/00	Component parts of escalators or moving walkways [4]	Step 8a
B66B 31/00	Accessories, e.g. for sterilising, cleaning (for safety B66B 29/00) [4]	Step 8a
	New residual main group is needed to cover accessory and ancillary devices for elevators.	Step 10

Comments:

Rapporteur has now collected hoistway groups together based on them being specialized function elevators limited to mines. Limiting references take care of any remaining overlap problems (e.g., system & door control).

Example 4 - Approved Top-down Sequence for B81B**MICRO-STRUCTURAL DEVICES OR SYSTEMS, e.g. MICRO-MECHANICAL DEVICES**

Main groups of subclass in top-down sequence		
Micro-structural systems	7/00	Step 5a
Devices comprising elements which are movable in relation to each other	5/00	Step 7c
Devices comprising flexible or deformable elements	3/00	Step 7c
Devices without movable or flexible elements	1/00	Step 7c
No residual main group needed		

Example 5 - Approved Top-down Sequence for B81C**PROCESSES OR APPARATUS SPECIALLY ADAPTED FOR THE
MANUFACTURE OR TREATMENT OF MICRO-STRUCTURAL
DEVICES OR SYSTEMS**

Main groups of subclass in top-down sequence		
Assembling of devices or systems from individually processed components	3/00	Step 4
Manufacture or treatment of devices or systems in or on a substrate	1/00	Step 7a
Residual processes or apparatus not otherwise provided for in this subclass	5/00	Step 9a

Example 6 - Approved Top-down Sequence for B82B**NANO-STRUCTURES; MANUFACTURE OR TREATMENT
THEREOF**

Main groups of subclass in top-down sequence		
Nano-structures	1/00	Step 2 a, b, c
Manufacture or treatment of nano-structures	3/00	Step 2 a, b, c
No residual main group needed		Step 10

DE - Rapporteur Proposal
Project: R132/03

Subclass: E01B

21.3.2003

IPC	Maingroup Title
E01B 31/00	Working rails, sleepers, baseplates, or the like, in or on the line; Machines, tools, or auxiliary devices specially designed therefor (characterised by features independent of use on assembled track B21, B23 to B25, B27)
E01B 11/00	Rail joints (electrical connection of rails B60M 5/00)
E01B 9/00	Fastening rails on sleepers, or the like (fastening rails to bridges E01D 19/12)
E01B 7/00	Switches; Crossings (operating mechanisms B61L)
E01B 5/00	Rails; Guard rails (manufacture of rails B21B); Distance-keeping means for them
E01B 33/00	Machines or devices for shifting tracks, with or without lifting, e.g. for aligning track, for shifting excavator track (combined with sleeper packing machines E01B 27/17)
E01B 13/00	Arrangements preventing shifting of the track
E01B 29/00	Laying, rebuilding, or taking-up tracks; Tools or machines therefor (E01B 27/00, E01B 31/00 take precedence)
E01B 25/00	Tracks for special kinds of railways (systems B61B; wheel tracks on roads E01C 9/02)
E01B 21/00	Track superstructure specially adapted for tramways in paved streets (paving E01C 9/04, E01C 9/06)
E01B 23/00	Easily dismantlable or movable tracks, e.g. temporary railways; Details specially adapted therefor
E01B 26/00	Tracks or track components not covered by any one of the preceding groups
E01B 19/00	Protection of permanent way against development of dust or against the effect of wind, sun, frost, or corrosion; Means to reduce development of noise (snow fences E01F 7/02; snow-ploughs E01H 8/02; watering E01H 11/00)
E01B 15/00	Guards for preventing a person's foot being trapped in grooved rails
E01B 17/00	Cattle guards connected to the permanent way (grids in general for preventing cattle from straying A01K 3/00)
E01B 3/00	Transverse or longitudinal sleepers (for switches or crossings E01B 7/22); Other means resting directly on the ballastway for supporting rails
E01B 1/00	Ballastway; Other means for supporting the sleepers or the track; Drainage of the ballastway (draining by trenches, culverts, or conduits E01F 5/00)
E01B 27/00	Placing, renewing, working, cleaning, or taking-up the ballast, with or without concurrent work on the track; Devices therefor; Packing sleepers
E01B 2/00	General structure of permanent way (railway networks B61B 1/00; foundations for pavings E01C 3/00; foundations in general E02D)
E01B 35/00	Applications of measuring apparatus or devices for track-building purposes (apparatus on locomotives or cars to indicate or record bad track sections B61K 9/00; measuring angles, linear dimensions, or irregularities in general G01B, G01C)
E01B 37/00	Making, maintaining, renewing, or taking-up the ballastway or the track, not provided for in a single one of groups E01B 27/00 to E01B 35/00

New Text in E01B 26/00 : ... not covered by any other group

DE - Rapporteur Proposal
Project: R133/03

21.3.2003

Subclass: E01C

IPC	Maingroup Title
E01C 17/00	Pavement lights, i.e. translucent constructions forming part of the surface (blocks specially designed for marking roads E01F 9/04)
E01C 15/00	Pavings specially adapted for footpaths, sidewalks, or cycle tracks
E01C 13/00	Pavings or foundations specially adapted for playgrounds or sports grounds (general layout A63C 19/00)
E01C 9/00	Special pavings (specially adapted for playgrounds or sports grounds E01C 13/00, for footpaths, sidewalks or cycle tracks E01C 15/00); Pavings for special parts of roads or airfields (pavement lights E01C 17/00; manholes or like covers or frames E02D 29/14)
E01C 5/00	Pavings made of prefabricated single units (specially adapted for playgrounds or sports grounds E01C 13/04, for footpaths, sidewalks or cycle tracks E01C 15/00; making artificial stones C04B; building stones E04C; flooring E04F)
E01C 11/00	Details of pavings
E01C 7/00	Coherent pavings made in situ (specially adapted for playgrounds or sports grounds E01C 13/06, for footpaths, sidewalks or cycle tracks E01C 15/00)
E01C 3/00	Foundations for pavings (specially adapted for playgrounds or sports grounds E01C 13/02; foundations in general E02D)
E01C 1/00	Design or layout of roads, e.g. for noise abatement, for gas absorption (design or layout of sports grounds A63C 19/00; design or layout of airfields B64F)
E01C 23/00	Auxiliary devices or arrangements for constructing, repairing, reconditioning, or taking-up road or like surfaces (apparatus for reconditioning of salvaged non-hydraulic compositions E01C 19/10)
E01C 21/00	Apparatus or processes for surface stabilisation for road building or like purposes, e.g. mixing borrowed aggregate with binder (stabilising soil under existing surfacing E01C 23/10; soil-conditioning or soil-stabilising materials C09K 17/00; soil-consolidation in general E02D 3/12)
E01C 19/00	Machines, tools, or auxiliary devices for preparing or distributing paving materials, for working the placed materials, or for forming, consolidating, or finishing the paving (surface stabilisation E01C 21/00; apparatus specially adapted for reconditioning or repairing paving E01C 23/00)

US Counter Proposal

26 April 2003

Project: R133/03**Subclass: E01C**Proposal for rearranged order of main groups:

E01C CONSTRUCTION OF, OR SURFACES FOR, ROADS, SPORTS GROUNDS, OR THE LIKE; MACHINES OR AUXILIARY TOOLS FOR CONSTRUCTION OR REPAIR (forming road or like surfaces by compacting or grading snow or ice E01H)

IPC	Maingroup Title	Guideline
	CONSTRUCTION OF, OR SURFACES FOR ROADS, SPORTS GROUNDS, OR THE LIKE	1
E01C 1/00	Design or layout of roads, e.g. for noise abatement, for gas absorption (design or layout of sports grounds A63C 19/00; design or layout of airfields B64F)	6
	Special pavings or foundations	
E01C 13/00	Pavings or foundations specially adapted for playgrounds or sports grounds (general layout A63C 19/00)	4
	Foundations	
E01C 3/00	Foundations for pavings (specially adapted for playgrounds or sports grounds E01C 13/02; foundations in general E02D)	7
	Pavings	
E01C 15/00	Pavings specially adapted for footpaths, sidewalks, or cycle tracks	4
E01C 9/00	Special pavings (specially adapted for playgrounds or sports grounds E01C 13/00, for footpaths, sidewalks or cycle tracks E01C 15/00); Pavings for special parts of roads or airfields (pavement lights E01C 17/00; manholes or like covers or frames E02D 29/14)	4
E01C 5/00	Pavings made of prefabricated single units (specially adapted for playgrounds or sports grounds E01C 13/04, for footpaths, sidewalks or cycle tracks E01C 15/00; making artificial stones C04B; building stones E04C; flooring E04F)	7
E01C 7/00	Coherent pavings made in situ (specially adapted for playgrounds or sports grounds E01C 13/06, for footpaths, sidewalks or cycle tracks E01C 15/00)	7
E01C 17/00	Pavement lights, i.e. translucent constructions forming part of the surface (blocks specially designed for marking roads E01F 9/04)	8
E01C 11/00	Details of pavings	8
	MACHINES OR AUXILIARY TOOLS FOR CONSTRUCTION OR REPAIR	1
E01C 21/00	Apparatus or processes for surface stabilisation for road building or like purposes, e.g. mixing borrowed aggregate with binder (stabilising soil under existing surfacing E01C 23/10; soil-conditioning or soil-stabilising materials C09K 17/00; soil-consolidation in general E02D 3/12)	4
E01C 19/00	Machines, tools, or auxiliary devices for preparing or distributing paving materials, for working the placed materials, or for forming, consolidating, or finishing the paving (surface stabilisation E01C 21/00; apparatus specially adapted for reconditioning or repairing paving E01C 23/00)	7
E01C 23/00	Auxiliary devices or arrangements for constructing, repairing, reconditioning, or taking-up road or like surfaces (apparatus for reconditioning of salvaged non-hydraulic compositions E01C 19/10)	8

Comments:

US suggests the following rearrangement shown above with guideline reasoning included:

- This was a two part subclass title that could be broken down into it's component parts (e.g., roads or other surfaces and then machines to build or maintain the roads)
- Within the "road or other surface group", design or layout of roads was the most comprehensive
- The remaining "road or other surface " main groups were broken down based upon whether they dealt with the foundation or paving or both
- Pavement lights were considered a special detail of pavings (we noted that these lights were referred to in a reference note in 9/00, but did not consider this a precedence note because 17/00 also referred back to 9/00)

We believe a residual group is needed because aspects such as, for example, curbs, gutters, drainage and other aspects are not accounted for.

Example 7 - Approved Top-down Sequence for E01D**BRIDGES**

Main groups of subclass in top-down sequence		
Bridges specially adapted for particular applications or functions not provided for elsewhere	18/00	Step 2 b, c Step 4
Floating bridges	15/14	Step 2 b, c Step 3b Step 4
Movable or portable bridges	15/00	Step 2 b, c Step 3b Step 4
Bridges characterized by a combination of diverse types of stationary bridges	12/00	Step 2 b, c Step 6a
Types of bridges		
Suspension or cable-stayed bridges	11/00	Step 2 b, c Step 7c
Truss-type bridges	6/00	Step 2 b, c Step 7c
Arch-type bridges	4/00	Step 2 b, c Step 7c
Bridges characterized by the cross-section of bearing spanning structure	2/00	Step 2 b, c Step 7c
Structural or constructional details of bridges	19/00	Step 2 b, c Step 8a
Bridges not provided for elsewhere in the subclass (residual bridges)	1/00	Step 2 b, c Step 8a
Method of Making Bridges		
Methods or apparatus for repairing or strengthening existing bridges	22/00	Step 2 b, c Step 4
Methods or apparatus specially adapted for erecting or assembling bridges	21/00	Step 2 b, c Step 7a
Residual main group <u>may</u> be needed. Although group 1/00 cover any possible remaining types of bridges, there does not seem to be a place for accessory or ancillary devices.		Step 10

Comments:

In this version of the previously approved arrangement, group 1/00 was moved below group 19/00 based on the proposed guidelines. Group 1/00 is the subclass providing for the residue types of bridges.

In this proposed sequence, Rapporteur divided main group 15/00 into two parts (15/14 and the residual 15/00), since the two parts of the title were of different complexity and distinct. If the distinct parts of the main group must be located in a single location, then it should be positioned in the location of the more complex portion covered by 15/14 (see step 3A).

DE - Rapporteur Proposal
Project: R135/03

21.3.2003

Sobclass: E01F

IPC	Maingroup Title
E01F 3/00	Landing stages for helicopters, e.g. located above buildings (layout of airfields B64F; buildings or like structures for special purposes E04H)
E01F 15/00	Safety arrangements for slowing, redirecting or stopping errant vehicles, e.g. guard posts or bollards; Arrangements for reducing damage to roadside structures due to vehicular impact (arrangements for fastening signs or signals to safety barriers or the like E01F 9/03; for forcibly arresting vehicles E01F 13/00) [6]
E01F 1/00	Construction of platforms or refuge islands (general arrangement of railway platforms B61B)
E01F 5/00	Draining the sub-base of roads or ballastway of railways by trenches, culverts, or conduits (underground drainage E02D; conduits for sewerage E03F)
E01F 11/00	Embedding pads or other sensitive devices in paving or other road surfaces (pressure-sensitive elements G01L; traffic control systems G08G)
E01F 8/00	Arrangements for absorbing or reflecting air transmitted noise from road or railway traffic (ground installations for reducing aircraft noise B64F 1/26; general building constructions for absorbing or reflecting noise, noise absorption or reflection for buildings E04B 1/74) [3]
E01F 9/00	Arrangement of road signs or traffic signals (signals, signalling systems G08; signs, attachment thereof to supports G09F); Arrangements for enforcing caution, e.g. speed bumps [6]
E01F 13/00	Arrangements for obstructing or restricting traffic, e.g. gates, barricades (for railway crossings B61L)
E01F 7/00	Devices affording protection against snow, sand drifts, side-wind effects, snowslides, avalanches or falling rocks (permanently installed heating or blowing devices for roads E01C 11/26); Anti-dazzle arrangements

US Counter Proposal

26 April 2003

Project: R135/03**Subclass: E01F**Proposal for rearranged order of main groups:**E01F ADDITIONAL WORK, SUCH AS EQUIPPING ROADS OR THE
CONSTRUCTION OF PLATFORMS, HELICOPTER LANDING STAGES,
SIGNS, SNOW FENCES, OR THE LIKE**

IPC	Maingroup Title	Guideline
	Special Constructions	
E01F 1/00	Construction of platforms or refuge islands (general arrangement of railway platforms B61B)	4
E01F 3/00	Landing stages for helicopters, e.g. located above buildings (layout of airfields B64F; buildings or like structures for special purposes E04H)	4
	Traffic Control	
E01F 13/00	Arrangements for obstructing or restricting traffic, e.g. gates, barricades (for railway crossings B61L)	4, 7
E01F 9/00	Arrangement of road signs or traffic signals (signals, signalling systems G08; signs, attachment thereof to supports G09F); Arrangements for enforcing caution, e.g. speed bumps [6]	7
E01F 11/00	Embedding pads or other sensitive devices in paving or other road surfaces (pressure-sensitive elements G01L; traffic control systems G08G)	7
E01F 15/00	Safety arrangements for slowing, redirecting or stopping errant vehicles, e.g. guard posts or bollards; Arrangements for reducing damage to roadside structures due to vehicular impact (arrangements for fastening signs or signals to safety barriers or the like E01F 9/03; for forcibly arresting vehicles E01F 13/00) [6]	7
	Road or Environment Protection	
E01F 5/00	Draining the sub-base of roads or ballastway of railways by trenches, culverts, or conduits (underground drainage E02D; conduits for sewerage E03F)	7
E01F 7/00	Devices affording protection against snow, sand drifts, side-wind effects, snowslides, avalanches or falling rocks (permanently installed heating or blowing devices for roads E01C 11/26); Anti-dazzle arrangements	7
E01F 8/00	Arrangements for absorbing or reflecting air transmitted noise from road or railway traffic (ground installations for reducing aircraft noise B64F 1/26; general building constructions for absorbing or reflecting noise, noise absorption or reflection for buildings E04B 1/74) [3]	7

Comments:

We have provided the counter proposal above with guideline reasoning as to why. In addition:

- In this subclass, we felt it was better to regroup the main groups according to function.
- Under the grouping, “Traffic control” we moved 13/00 to the top since we felt the gates were a special type of traffic signal

We believe a residual main group is needed since none was provided and the existing main groups cannot exhaust the subject matter of such a broad subclass title

DE - Rapporteur Proposal**21.3.2003****Project: R136/03****Subclass: E01H**

IPC	Maingroup Title
E01H 10/00	Improving gripping of ice-bound or other slippery traffic surfaces, e.g. using gritting or thawing materials (roughening ice by means of tools E01H 5/12; applying de-icing agents to rails E01H 8/10; thawing materials C09K 3/18; by constructional features E01C 11/24)
E01H 4/00	Making or maintaining surfaces of snow or ice suitable for traffic or sporting purposes, e.g. by compacting snow [4]
E01H 8/00	Removing undesirable matter from the permanent way of railways; Removing undesirable matter from tramway rails (E01H 1/00 to E01H 6/00 take precedence)
E01H 11/00	Control of undesirable vegetation on roads or permanent ways of railways (destruction of undesirable vegetation in general A01M 7/00 to A01M 15/00, A01M 21/00; weeding involving working the ballast E01B 27/00); Applying liquids, e.g. water, weed-killer, bitumen, to permanent ways (specially to rails E01H 8/10; for preserving sleepers E01B 31/20)
E01H 3/00	Applying liquids to roads or like surfaces, e.g. for dust control; Stationary flushing devices (combined with removal of undesirable matter E01H 1/00; spray heads, other outlets B05B)
E01H 6/00	Apparatus equipped with, or having provisions for equipping with, both elements for removal of refuse or the like and elements for removal of snow or ice (E01H 8/10 takes precedence)
E01H 5/00	Removing snow or ice from roads or like surfaces; Grading or roughening snow or ice (by applying de-icing agents E01H 10/00; obstruction removers on vehicles B60R 19/00; sand, gravel or salt spreaders E01C 19/20) [4]
E01H 1/00	Removing undesirable matter from roads or like surfaces, with or without moistening of the surface (for snow or ice E01H 5/00; cleaning tramway rails E01H 8/00; obstruction-removers on vehicles B60R 19/00; in combination with application of bitumen or the like E01C 19/16; in combination with application of traffic lines E01C 23/16)
E01H 12/00	Cleaning beaches
E01H 13/00	Dispersing fog in general, e.g. on roads, on airfields
E01H 15/00	Removing undesirable matter, e.g. rubbish, from the land, not otherwise provided for (gatherers for removing stones, roots or the like from the soil A01B 43/00) [4]

US Counter Proposal

26 April 2003

Project: R136/03**Subclass: E01H**Proposal for rearranged order of main groups:

E01H STREET CLEANING; CLEANING OF PERMANENT WAYS; CLEANING BEACHES; CLEANING LAND; DISPERSING FOG IN GENERAL (mowers convertible to apparatus for sweeping or cleaning lawns or other surfaces, e.g. to remove snow, or capable of sweeping or cleaning lawns or other surfaces A01D 42/06; cleaning in general B08B) [4]

IPC	Maingroup Title	Guideline
E01H 13/00	Dispersing fog in general, e.g. on roads, on airfields	1
E01H 12/00	Cleaning beaches	1
E01H 11/00	Control of undesirable vegetation on roads or permanent ways of railways (destruction of undesirable vegetation in general A01M 7/00 to A01M 15/00, A01M 21/00; weeding involving working the ballast E01B 27/00); Applying liquids, e.g. water, weed-killer, bitumen, to permanent ways (specially to rails E01H 8/10; for preserving sleepers E01B 31/20)	4
E01H 4/00	Making or maintaining surfaces of snow or ice suitable for traffic or sporting purposes, e.g. by compacting snow [4]	4
E01H 10/00	Improving gripping of ice-bound or other slippery traffic surfaces, e.g. using gritting or thawing materials (roughening ice by means of tools E01H 5/12; applying de-icing agents to rails E01H 8/10; thawing materials C09K 3/18; by constructional features E01C 11/24)	4
E01H 6/00	Apparatus equipped with, or having provisions for equipping with, both elements for removal of refuse or the like and elements for removal of snow or ice (E01H 8/10 takes precedence)	6
E01H 5/00	Removing snow or ice from roads or like surfaces; Grading or roughening snow or ice (by applying de-icing agents E01H 10/00; obstruction removers on vehicles B60R 19/00; sand, gravel or salt spreaders E01C 19/20) [4]	7
E01H 1/00	Removing undesirable matter from roads or like surfaces, with or without moistening of the surface (for snow or ice E01H 5/00; cleaning tramway rails E01H 8/00; obstruction-removers on vehicles B60R 19/00; in combination with application of bitumen or the like E01C 19/16; in combination with application of traffic lines E01C 23/16)	7
E01H 3/00	Applying liquids to roads or like surfaces, e.g. for dust control; Stationary flushing devices (combined with removal of undesirable matter E01H 1/00; spray heads, other outlets B05B)	7
E01H 8/00	Removing undesirable matter from the permanent way of railways; Removing undesirable matter from tramway rails (E01H 1/00 to E01H 6/00 take precedence)	7
E01H 15/00	Removing undesirable matter, e.g. rubbish, from the land, not otherwise provided for (gatherers for removing stones, roots or the like from the soil A01B 43/00) [4]	1, 10

Comments:

This was a very difficult subclass to rearrange, given the conflicting precedence notes (compare, for example, the precedence notes in 6/00 and 8/00 which put me in an endless loop). Nonetheless, we tried to apply guidelines and we came up with the above alternative rearrangement which does not seem to be too bad:

- 12/00 and 13/00 were very specialized separable subject matter so we put those first
- 11/00 was particular to weed control so it was considered a special type of cleaning
- 4/00 and 10/00 weren't really cleaning per se (they were more like special treatments to make the way passible) so they were considered special; Also, we tried to keep snow clearing/treating together as best we could, given the unusual precedence notes
- 3/00 seems out of place where it is, but we were forced to place it in between road clearing and permanent way clearing due to precedence notes.
- We could not put 8/00 in its proper position according to precedence, due to the precedence note in 8/00 itself

No new residual main group is needed because of the existence of 15/00

DE - Rapporteur Proposal
Project: R137/03

Subclass: E02B

21.3.2003

IPC	Maingroup Title
E02B 9/00	Water-power plants; Layout, construction or equipment, methods of, or apparatus for, making same (hydraulic motors F03B)
E02B 8/00	Details of barrages or weirs (cleaning or keeping clear the surface of open water E02B 15/00)
E02B 7/00	Barrages or weirs; Layout, construction, methods of, or devices for, making same (for protecting banks, coasts, or harbours E02B 3/04; sealings or joints E02B 3/16; handling building or like materials for hydraulic engineering E02D 15/00; foundations in general E02D 27/00)
E02B 17/00	Artificial islands mounted on piles or like supports, e.g. platforms on raisable legs; Construction methods therefor (fenders E02B 3/26; anchoring floating platforms B63B 21/00; floating platforms, e.g. anchored, B63B 35/44; independent underwater structures E02D 29/00) [5]
E02B 5/00	Artificial water canals (for water-power plants E02B 9/02; irrigation of soil E02B 13/00)
E02B 15/00	Cleaning or keeping clear the surface of open water; Apparatus therefor (construction of ships or other waterborne vessels B63B, e.g. vessels specially adapted for collecting pollution from open water B63B 35/32; in swimming or splash baths or pools E04H 4/16) [5]
E02B 11/00	Drainage of soil, e.g. for agricultural purposes
E02B 13/00	Irrigation ditches, i.e. gravity flow, open channel water distribution systems (other distribution systems for watering or spraying gardens, fields, sports grounds, or the like A01G 25/00) [2]
E02B 3/00	Engineering work in connection with control or use of streams, rivers, coasts, or other marine sites (barrages or weirs E02B 7/00); Sealings or joints for engineering work in general
E02B 1/00	Equipment or apparatus for, or methods of, general hydraulic engineering

US Counter Proposal

26 April 2003

Project: R137/03**Subclass: E02B**Proposal for rearranged order of main groups:

E02B HYDRAULIC ENGINEERING (ship-lifting E02C; dredging E02F)		
IPC	Maingroup Title	Guideline
E02B 15/00	Cleaning or keeping clear the surface of open water; Apparatus therefor (construction of ships or other waterborne vessels B63B, e.g. vessels specially adapted for collecting pollution from open water B63B 35/32; in swimming or splash baths or pools E04H 4/16) [5]	4 or 5
E02B 9/00	Water-power plants; Layout, construction or equipment, methods of, or apparatus for, making same (hydraulic motors F03B)	7
E02B 17/00	Artificial islands mounted on piles or like supports, e.g. platforms on raisable legs; Construction methods therefor (fenders E02B 3/26; anchoring floating platforms B63B 21/00; floating platforms, e.g. anchored, B63B 35/44; independent underwater structures E02D 29/00) [5]	7
	Barrages and weirs	
E02B 7/00	Barrages or weirs; Layout, construction, methods of, or devices for, making same (for protecting banks, coasts, or harbours E02B 3/04; sealings or joints E02B 3/16; handling building or like materials for hydraulic engineering E02D 15/00; foundations in general E02D 27/00)	7
E02B 8/00	Details of barrages or weirs (cleaning or keeping clear the surface of open water E02B 15/00)	8
	Water distribution	
E02B 13/00	Irrigation ditches, i.e. gravity flow, open channel water distribution systems (other distribution systems for watering or spraying gardens, fields, sports grounds, or the like A01G 25/00) [2]	4
E02B 5/00	Artificial water canals (for water-power plants E02B 9/02; irrigation of soil E02B 13/00)	7
E02B 11/00	Drainage of soil, e.g. for agricultural purposes	7
	Hydraulic engineering work in general	
E02B 3/00	Engineering work in connection with control or use of streams, rivers, coasts, or other marine sites (barrages or weirs E02B 7/00); Sealings or joints for engineering work in general	9
E02B 1/00	Equipment or apparatus for, or methods of, general hydraulic engineering	10

Comments:

US Proposes:

- Moving 15/00 to the top of the schedule as either a special or the combination of the subject matter of the subclass with the subject matter of another subclass (i.e. water treatment)
- Moving 17/00 higher in the scheme, after 9, due to its highly specialized nature
- Moving 7/00 ahead of 8/00 since the latter is a component area to the former
- Moving 13/00 ahead of 5/00 since (particularly without definitions) 13/00 can be considered by many to be a special type of artificial water canal

No new residual maingroup is needed because residual group 1/00 already exists

DE - Rapporteur Proposal**21.3.2003****Project: R138/03****Subclass: E02C**

IPC	Maingroup Title
E02C 5/00	Mechanisms for lifting ships vertically (salvaging sunken vessels B63C 7/00)
E02C 3/00	Inclined-plane ship-lifting mechanisms
E02C 1/00	Locks; Shaft locks, i.e. locks of which one front side is formed by a solid wall with an opening in the lower part through which the ships pass (lock gates E02B 7/20)

US Counter Proposal
Project: R138/03

21.3.2003

Subclass: E02C

IPC	Maingroup Title
E02C 5/00	Mechanisms for lifting ships vertically (salvaging sunken vessels B63C 7/00)
E02C 3/00	Inclined-plane ship-lifting mechanisms
E02C 1/00	Locks; Shaft locks, i.e. locks of which one front side is formed by a solid wall with an opening in the lower part through which the ships pass (lock gates E02B 7/20)

E 02 C	SHIP-LIFTING DEVICES OR MECHANISMS	
IPC	Maingroup Title	
E02C 1/00	Locks; Shaft locks, i.e. locks of which one front side is formed by a solid wall with an opening in the lower part through which the ships pass (lock gates E02B 7/20)	
E02C 3/00	Inclined-plane ship-lifting mechanisms	
E02C 5/00	Mechanisms for lifting ships vertically (salvaging sunken vessels B63C 7/00)	

Comments:

The subject matter of the three main groups in this subclass cover lifting ships (vertically). 1/00 (using a lock) and 3/00 (using an inclined plane) lift ships with a specific mechanism and should precede 5/00 (generic lifting). Since 1/00 and 3/00 are mutually exclusive their relative order is not important, although they must both precede the generic 5/00. US could accept the proposed DE modified scheme if the main group 5/00 were relegated to the last position; however, we see no compelling reason to change the existing IPC.

No residual group is required as 5/00 covers this.

DE - Rapporteur Proposal**21.3.2003****Project: R139/03****Subclass: E02D**

IPC	Maingroup Title
E02D 25/00	Joining caissons or like sunk units to each other under water
E02D 23/00	Caissons; Construction or placing of caissons (tunnels submerged into or built in open water E02D 29/063) [6]
E02D 35/00	Straightening, lifting, or lowering of foundation structures or of constructions erected on foundations
E02D 29/00	Underground or underwater structures (underground tanks B65D 88/76; hydraulic engineering, e.g. sealings or joints, E02B; underground garages E04H 6/00; underground air-raid shelters E04H 9/12; burial vaults E04H 13/00); Retaining walls [6]
E02D 27/00	Foundations as substructures
E02D 17/00	Excavations; Bordering of excavations; Making embankments (soil shifting apparatus E02F; earth drilling E21)
E02D 13/00	Accessories for placing or removing piles or bulkheads
E02D 11/00	Methods or apparatus for both placing and removing sheet pile bulkheads, piles, or mould-pipes (features relating to placing only E02D 7/00, to removing only E02D 9/00)
E02D 7/00	Methods or apparatus for placing sheet pile bulkheads, piles, mould-pipes, or other moulds (for both placing and removing E02D 11/00)
E02D 9/00	Removing sheet pile bulkheads, piles, mould-pipes, or other moulds (for both placing and removing E02D 11/00)
E02D 5/00	Bulkheads, piles, or other structural elements specially adapted to foundation engineering (engineering elements in general F16)
E02D 19/00	Keeping dry foundation sites or other areas in the ground (sheet piles or bulkheads E02D 5/02)
E02D 3/00	Improving or preserving soil or rock, e.g. preserving permafrost soil (securing of slopes or inclines E02D 17/20; damming or interrupting passage of underground water E02D 19/12; improving soil for agricultural purposes A01; soil stabilisation for road building or like purposes E01C 21/00, E01C 23/10; setting rock anchoring bolts E21D)
E02D 1/00	Investigation of foundation soil in situ (investigation involving boring or specially adapted to earth drilling E21B 25/00, E21B 49/00; investigating or analysing materials by determining their chemical or physical properties, in general G01N, e.g. sampling G01N 1/00)
E02D 37/00	Repair of damaged foundations or foundation structures
E02D 31/00	Protective arrangements for foundations or foundation structures; Ground foundation measures for protecting the soil or the subsoil water, e.g. preventing or counteracting oil pollution (spillage retaining means for tanks B65D 90/24)
E02D 15/00	Handling building or like materials for hydraulic engineering or foundations (conveying or working-up concrete or similar masses in general E04G 21/02)
E02D 33/00	Testing foundations or foundation structures (testing methods or apparatus, see the relevant subclasses of class G01; testing structures or apparatus as regards function, in general, G01M; investigating or analysing materials by determining their chemical or physical properties, in general G01N)

DE - Rapporteur Proposal**21.3.2003****Project: R139/03****Subclass: E02D**

E 02 D	FOUNDATIONS; EXCAVATIONS; EMBANKMENTS (specially adapted for hydraulic engineering E02B); UNDERGROUND OR UNDERWATER STRUCTURES [6]	
IPC	Maingroup Title	Guideline
E02D 25/00	Joining caissons or like sunk units to each other under water	
E02D 23/00	Caissons; Construction or placing of caissons (tunnels submerged into or built in open water E02D 29/063) [6]	
E02D 35/00	Straightening, lifting, or lowering of foundation structures or of constructions erected on foundations	
E02D 29/00	Underground or underwater structures (underground tanks B65D 88/76; hydraulic engineering, e.g. sealings or joints, E02B; underground garages E04H 6/00; underground air-raid shelters E04H 9/12; burial vaults E04H 13/00); Retaining walls [6]	
E02D 27/00	Foundations as substructures	
E02D 17/00	Excavations; Bordering of excavations; Making embankments (soil shifting apparatus E02F; earth drilling E21)	
E02D 13/00	Accessories for placing or removing piles or bulkheads	
E02D 11/00	Methods or apparatus for both placing and removing sheet pile bulkheads, piles, or mould-pipes (features relating to placing only E02D 7/00, to removing only E02D 9/00)	
E02D 7/00	Methods or apparatus for placing sheet pile bulkheads, piles, mould-pipes, or other moulds (for both placing and removing E02D 11/00)	
E02D 9/00	Removing sheet pile bulkheads, piles, mould-pipes, or other moulds (for both placing and removing E02D 11/00)	
E02D 5/00	Bulkheads, piles, or other structural elements specially adapted to foundation engineering (engineering elements in general F16)	
E02D 19/00	Keeping dry foundation sites or other areas in the ground (sheet piles or bulkheads E02D 5/02)	
E02D 3/00	Improving or preserving soil or rock, e.g. preserving permafrost soil (securing of slopes or inclines E02D 17/20; damming or interrupting passage of underground water E02D 19/12; improving soil for agricultural purposes A01; soil stabilisation for road building or like purposes E01C 21/00, E01C 23/10; setting rock anchoring bolts E21D)	
E02D 1/00	Investigation of foundation soil in situ (investigation involving boring or specially adapted to earth drilling E21B 25/00, E21B 49/00; investigating or analysing materials by determining their chemical or physical properties, in general G01N, e.g. sampling G01N 1/00)	
E02D 37/00	Repair of damaged foundations or foundation structures	
E02D 31/00	Protective arrangements for foundations or foundation structures; Ground foundation measures for protecting the soil or the subsoil water, e.g. preventing or counteracting oil pollution (spillage retaining means for tanks B65D 90/24)	
E02D 15/00	Handling building or like materials for hydraulic engineering or foundations (conveying or working-up concrete or similar masses in general E04G 21/02)	
E02D 33/00	Testing foundations or foundation structures (testing methods or apparatus, see the relevant subclasses of class G01; testing structures or apparatus as regards function, in general, G01M; investigating or analysing materials by determining their chemical or physical properties, in general G01N)	

US – Counter Proposal

E 02 D	FOUNDATIONS; EXCAVATIONS; EMBANKMENTS (specially adapted for hydraulic engineering E02B); UNDERGROUND OR UNDERWATER STRUCTURES [6]	
IPC	Maingroup Title	Guideline
	Underground or underwater structures	1
E02D 29/00	Underground or underwater structures (underground tanks B65D 88/76; hydraulic engineering, e.g. sealings or joints, E02B; underground garages E04H 6/00; underground air-raid shelters E04H 9/12; burial vaults E04H 13/00); Retaining walls [6]	2, 7
E02D 25/00	Joining caissons or like sunk units to each other under water	2, 8
E02D 23/00	Caissons; Construction or placing of caissons (tunnels submerged into or built in open water E02D 29/063) [6]	2, 8
	Foundations	1
E02D 1/00	Investigation of foundation soil in situ (investigation involving boring or specially adapted to earth drilling E21B 25/00, E21B 49/00; investigating or analysing materials by determining their chemical or physical properties, in general G01N, e.g. sampling G01N 1/00)	4
E02D 35/00	Straightening, lifting, or lowering of foundation structures or of constructions erected on foundations	4
E02D 37/00	Repair of damaged foundations or foundation structures	4
E02D 33/00	Testing foundations or foundation structures (testing methods or apparatus, see the relevant subclasses of class G01; testing structures or apparatus as regards function, in general, G01M; investigating or analysing materials by determining their chemical or physical properties, in general G01N)	4
E02D 27/00	Foundations as substructures	7
E02D 19/00	Keeping dry foundation sites or other areas in the ground (sheet piles or bulkheads E02D 5/02)	8
E02D 31/00	Protective arrangements for foundations or foundation structures; Ground foundation measures for protecting the soil or the subsoil water, e.g. preventing or counteracting oil pollution (spillage retaining means for tanks B65D 90/24)	8
	Excavations	1
E02D 17/00	Excavations; Bordering of excavations (soil shifting apparatus E02F; earth drilling E21)	3, 7
	Embankments	1
E02D 5/00	Bulkheads, piles, or other structural elements specially adapted to foundation engineering (engineering elements in general F16)	2,7
E02D 11/00	Methods or apparatus for both placing and removing sheet pile bulkheads, piles, or mould-pipes (features relating to placing only E02D 7/00, to removing only E02D 9/00)	2,7
E02D 7/00	Methods or apparatus for placing sheet pile bulkheads, piles, mould-pipes, or other moulds (for both placing and removing E02D 11/00)	2,7
E02D 9/00	Removing sheet pile bulkheads, piles, mould-pipes, or other moulds (for both placing and removing E02D 11/00)	2,7
E02D 17/18	. Making embankments	2, 3,7
E02D 13/00	Accessories for placing or removing piles or bulkheads	8
	Improving or preserving soil or rock	
E02D 3/00	Improving or preserving soil or rock, e.g. preserving permafrost soil (securing of slopes or inclines E02D 17/20; damming or interrupting passage of underground water E02D 19/12; improving soil for agricultural purposes A01; soil stabilisation for road building or like purposes E01C 21/00, E01C 23/10; setting rock anchoring bolts E21D)	9
	Handling building materials for hydraulic engineering	
E02D 15/00	Handling building or like materials for hydraulic engineering or foundations (conveying or working-up concrete or similar masses in	9

	general E04G 21/02)	
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US Comments:

- We created headings to group the main groups together as the subclass title was multi-part and there were many main groups.
- We moved 29/00 ahead of 25/00 as caissons are apparatus used to assist in the construction of underwater structures.
- We moved 1/00, 35/00, 37/00, and 33/00 higher in the scheme because of the specialized art they cover, and grouped them with “foundations”.
- We split out subgroup 17/18 (making embankments) from 17/00 and placed it lower in the scheme under “embankments”.
- We moved 11/0, 7/00, and 9/00 below 5/00 as the former three are methods of making embankments whereas 5/00 covers embankments, per se.
- 13/00, which covers accessories for embankments, was moved to the bottom of the embankment grouping..
- It appears as though a residual main group is required under “embankments” for embankments that aren’t made of piles or bulkheads (e.g. planting trees or grasses). No other residual main groups are required.

DE - Rapporteur Proposal
Project: R140/03

Subclass: E02F

21.3.2003

IPC	Maingroup Title
E02F 5/00	Dredgers or soil-shifting machines for special purposes
E02F 3/00	Dredgers; Soil-shifting machines (for special purposes E02F 5/00; other machines or apparatus for mining E21C; tunnelling E21D)
E02F 9/00	Component parts of dredgers or soil-shifting machines, not restricted to one of the kinds covered by groups E02F 3/00 to E02F 7/00 (laying-out or take-up devices for trailing electric cables B66C) [3]
E02F 7/00	Equipment for conveying or separating excavated material (barges adapted for carrying-away material from floating dredgers B63B 35/28)
E02F 1/00	General working methods with dredgers or soil-shifting machines (methods for making embankments E02D 17/18; methods for mining E21C)

DE - Rapporteur Proposal
Project: R140/03

Subclass: E02F

21.3.2003

IPC	Maingroup Title
E02F 5/00	Dredgers or soil-shifting machines for special purposes
E02F 3/00	Dredgers; Soil-shifting machines (for special purposes E02F 5/00; other machines or apparatus for mining E21C; tunnelling E21D)
E02F 9/00	Component parts of dredgers or soil-shifting machines, not restricted to one of the kinds covered by groups E02F 3/00 to E02F 7/00 (laying-out or take-up devices for trailing electric cables B66C) [3]
E02F 7/00	Equipment for conveying or separating excavated material (barges adapted for carrying-away material from floating dredgers B63B 35/28)
E02F 1/00	General working methods with dredgers or soil-shifting machines (methods for making embankments E02D 17/18; methods for mining E21C)

US - Counter Proposal

E 02 F	DREDGING; SOIL-SHIFTING (winning peat E21C 49/00)	
IPC	Maingroup Title	Guideline
E02F 1/00	General working methods with dredgers or soil-shifting machines (methods for making embankments E02D 17/18; methods for mining E21C)	2
E02F 5/00	Dredgers or soil-shifting machines for special purposes	7
E02F 3/00	Dredgers; Soil-shifting machines (for special purposes E02F 5/00; other machines or apparatus for mining E21C; tunnelling E21D)	7
E02F 7/00	Equipment for conveying or separating excavated material (barges adapted for carrying-away material from floating dredgers B63B 35/28)	9
E02F 9/00	Component parts of dredgers or soil-shifting machines, not restricted to one of the kinds covered by groups E02F 3/00 to E02F 7/00 (laying-out or take-up devices for trailing electric cables B66C) [3]	9

US comments:

As group 1/00 is a different category of invention related to dredgers and soil shifting machines it must be grouped by according to either the category of invention (methods) or with the machines. The DE proposal to separate it from the machines of equal scope is acceptable, though it is preferable to place methods of using a machine ahead the groups for the machine, per se, and have so indicated the change. US also proposes to move group 7/00 higher in the scheme than 9/00 since the latter is a residual component group for 3/00-7/00. No additional residual groups are required.

DE - Rapporteur Proposal
Project: R141/03

Subclass: E03B

21.3.2003

IPC	Maingroup Title
E03B 9/00	Methods or installations for drawing-off water (domestic water-drawing devices E03C; taps or valves F16K) [4]
E03B 3/00	Methods or installations for obtaining or collecting drinking water or tap water (treatment of water C02F) [4]
E03B 5/00	Use of pumping plants or installations; Layouts thereof (pumps, pumping plants or installations per se, F04)
E03B 7/00	Water main or service pipe systems (pipes or tubes in general F16L)
E03B 11/00	Arrangements or adaptations of tanks for water supply (water-butts E03B 3/03; storage aspects B65D, B65G, F17B, F17C; foundations E02D 27/38; construction or assembling of bulk storage containers employing civil engineering techniques E04H 7/00; tower aspects E04H 12/00)
E03B 1/00	Methods or layout of installations for water supply (E03B 3/00, E03B 9/00 take precedence) [4]

DE - Rapporteur Proposal

21.3.2003

Project: R142/03

Subclass: E03C

IPC	Maingroup Title
E03C 1/00	Domestic plumbing installations for fresh water or waste water; Sinks

DE - Rapporteur Proposal**21.3.2003****Project: R143/03****Subclass: E03D**

IPC	Maingroup Title
E03D 9/00	Sanitary or other accessories for lavatories (hand tools for cleaning the toilet bowl A47K 11/10; seats or covers for closets A47K 13/00; body supports, other than seats, for closets A47K 17/02; devices for preventing contamination of drinking-water pipes E03C 1/10)
E03D 5/00	Special constructions of flushing devices (in motor vehicles or trailers B60R 15/00; in railway carriages B61D 35/00; in ships B63B 29/14; in aircraft B64D 11/02)
E03D 11/00	Other component parts of water-closets (pipe joints or couplings in general F16L)
E03D 3/00	Flushing devices operated by pressure of the water supply system
E03D 1/00	Water flushing devices with cisterns
E03D 7/00	Wheeled lavatories (wheeled closets without flushing A47K 11/00; construction of land vehicles B62)
E03D 13/00	Urinals (without flushing devices A47K 11/00)

DE - Rapporteur Proposal**21.3.2003****Project: R144/03****Subclass: E03F**

IPC	Maingroup Title
E03F 7/00	Other installations or implements for operating sewer systems, e.g. for preventing or indicating stoppage; Emptying cesspools
E03F 9/00	Arrangements or fixed installations for cleaning sewer pipes, e.g. by flushing (sediment traps, rakes, screens, or the like, arranged in sewer lines E03F 5/14; cleaning pipes in general, devices for cleaning pipes B08B 9/02)
E03F 5/00	Sewerage structures
E03F 3/00	Sewer pipe-line systems
E03F 11/00	Cesspools (emptying cesspools E03F 7/00; features relating to treatment of sewage C02F)
E03F 1/00	Methods, systems, or installations for draining-off sewage or storm water

DE - Rapporteur Proposal
Project: R145/03

21.3.2003

Subclass: E04B

IPC	Maingroup Title
E04B 7/00	Roofs; Roof construction with regard to insulation (structures for roofs as well as for floors E04B 5/00; ceilings E04B 9/00; greenhouses A01G 9/14; large containers having floating covers B65D 88/34; roof trusses, truss-like structures, joists E04C 3/02; roof coverings E04D) [5]
E04B 2/00	Walls, e.g. partitions, for buildings; Wall construction with regard to insulation; Connections specially adapted to walls (connections for building structures in general E04B 1/38; insulation for building in general E04B 1/62; building elements of relatively thin form for parts of buildings E04C 2/00)
E04B 9/00	Ceilings; Construction of ceilings, e.g. false ceilings; Ceiling construction with regard to insulation (ceilings used as forms for making floors E04B 5/00; coverings or linings for ceilings E04F 13/00) [5]
E04B 5/00	Floors; Floor construction with regard to insulation; Connections specially adapted therefor (elements for floors, e.g. bricks, stones, filling bodies, girders, E04C; flooring as finishing work, insulation of flooring, sectional false floors, e.g. for computers, E04F 15/00) [5]
E04B 1/00	Constructions in general; Structures which are not restricted either to walls, e.g. partitions, or floors or ceilings or roofs (scaffolds, shutterings E04G; structures specially adapted for buildings for special purposes, general layout of buildings, e.g. modular co-ordination, E04H; the particular parts of buildings, see the relevant groups for those parts)

+ Index-system ?

DE - Rapporteur Proposal
Project: R146/03

Subclass: E04C

21.3.2003

IPC	Maingroup Title
E04C 5/00	Reinforcing elements, e.g. for concrete; Auxiliary elements therefor (material composition C21, C22; arrangements of reinforcing elements, see the relevant classes)
E04C 3/00	Structural elongated elements designed for load-supporting (as building aids E04G)
E04C 2/00	Building elements of relatively thin form for the construction of parts of buildings, e.g. sheet materials, slabs, or panels (materials or manufacture, see the relevant places, e.g. B27N, B29, D21J; made in situ E04B; specially designed for insulation or other protection E04B 1/62; load-carrying floor structures E04B 5/02, E04B 5/16; roofs consisting of self-supporting slabs E04B 7/20; roof- or like covering elements E04D 3/00; for lining or finishing E04F 13/00)
E04C 1/00	Building elements of block or other shape for the construction of parts of buildings (of relatively thin form E04C 2/00; structural elongated elements designed for load-supporting E04C 3/00, e.g. columns or pillars E04C 3/30; manufacture or material of building bricks, stones, or the like B28, C03, C04; paving elements E01C; general building constructions E04B, e.g. walls E04B 2/00, floors E04B 5/00, roofs E04B 7/00, ceilings E04B 9/00; structural elements specially designed for built-in conduit shafts E04F; special elements for building ovens or furnaces F24B, F27D) [5]

DE - Rapporteur Proposal**21.3.2003****Project: R147/03****Subclass: E04D**

IPC	Maingroup Title
E04D 15/00	Apparatus or tools for roof working
E04D 13/00	Special arrangements or devices in connection with roof coverings; Roof drainage (ventilation tiles E04D 1/30; ventilation slabs E04D 3/40; internal channels E04F 17/00; roofing elements therefor, see the relevant groups)
E04D 11/00	Roof covering, as far as not restricted to features covered by only one of groups E04D 1/00 to E04D 9/00; Roof covering in ways not provided for by groups E04D 1/00 to E04D 9/00
E04D 5/00	Roof covering by making use of flexible material, e.g. supplied in roll form (using stiff sheets E04D 3/00; gravelling of flat roofs E04D 7/00; built-up roofs E04D 11/02)
E04D 3/00	Roof covering by making use of flat or curved slabs or stiff sheets (E04D 1/00 takes precedence; built-up roofs E04D 11/02)
E04D 1/00	Roof covering by making use of tiles, slates, shingles, or other small roofing elements (roofing supports E04D 12/00)
E04D 9/00	Roof covering by using straw, thatch, or like materials (impregnation against incendiary damage B27K)
E04D 7/00	Roof covering by sealing masses applied in situ; Gravelling of flat roofs
E04D 12/00	Non-structural supports for roofing materials, e.g. battens, boards (E04D 11/02 takes precedence)

DE - Rapporteur Proposal
Project: R148/03

21.3.2003

Subclass: E04F

IPC	Maingroup Title
E04F 21/00	Implements for finishing work on buildings (for working or treating building elements of stone or stone-like material B28D; designed specifically for special details provided for in the preceding groups, see the relevant groups for the details)
E04F 10/00	Sunshades; Awnings (baldachins A45B, A45F, E04H; trailer awnings E04H 15/08; for tents E04H 15/58)
E04F 11/00	Stairways, ramps, or like structures (mounting or marking-off stairways E04F 21/26; of temporary construction E04G 27/00); Balustrades; Handrails (ladders permanently attached to fixed structures E06C 9/00)
E04F 17/00	Vertical ducts; Channels, e.g. for drainage (pipes in general F16L; pipe-line systems F17D)
E04F 15/00	Flooring (stair treads E04F 11/104; coverings not specially adapted for floors E04F 13/00; borders, skirtings E04F 19/02; gratings for cleaning soles of footwear A47L 23/24; of similar materials to roads E01C; basic or rough floors E04B 5/00) [6]
E04F 13/00	Coverings or linings, e.g. for walls or ceilings (flooring E04F 15/00; decoration of surfaces, mosaic work B44, e.g. paper-hanging B44C 7/00; made of webs, e.g. of fabrics or wallpaper, D03D, D04G, D04H, D06N, D21H; construction of ceilings E04B 9/00; roofings or similar water-tight coverings against precipitation E04D) [3]
E04F 19/00	Other details or constructional parts for finishing work on buildings (ladders, e.g. climbing irons, E06C 9/04)

DE - Rapporteur Proposal
Project: R149/03

Subclass: E04G

21.3.2003

IPC	Maingroup Title
E04G 17/00	Connecting or other auxiliary members for forms, falsework structures, or shutterings
E04G 13/00	Falsework, forms, or shutterings for particular parts of buildings, e.g. stairs, steps, cornices, balconies
E04G 15/00	Forms or shutterings for making openings, cavities, slits, or channels (forming part of shuttering for walls E04G 11/06)
E04G 11/00	Forms, shutterings, or falsework for making walls, floors, ceilings, or roofs
E04G 9/00	Forming or shuttering elements for general use
E04G 19/00	Auxiliary treatment of forms, e.g. dismantling; Cleaning devices (lubricating compositions C10M)
E04G 7/00	Connections between parts of the scaffold (for building structures in general E04B 1/38; connections in general F16B)
E04G 5/00	Component parts for workmen's scaffolds (connections E04G 7/00)
E04G 3/00	Scaffolds essentially supported by building constructions, e.g. adjustable in height (E04G 1/00 takes precedence)
E04G 1/00	Scaffolding primarily resting on the ground
E04G 27/00	Temporary arrangements for giving access from one level to another for men or vehicles, e.g. steps, ramps (for scaffolding E04G 1/26; gangways B63; lifts B66; landing bridges E01D 15/24; permanent stairways or ramps E04F 11/00; ladders E06C)
E04G 25/00	Shores or struts (specially designed for use in mines E21D 15/00); Chocks
E04G 21/00	Preparing, conveying, or working-up building materials or building elements in situ; Other devices or measures for constructional work (working stone-like materials B28D; conveying in general B65G; lifting devices B66; measuring instruments G01)
E04G 23/00	Working measures on existing buildings (on foundations E02D 35/00, E02D 37/00; in connection with insulations E04B; subsequent or finishing work E04F)

DE - Rapporteur Proposal
Project: R150/03

Subclass: E04H

21.3.2003

IPC	Maingroup Title
E04H 9/00	Buildings, groups of buildings, or shelters, adapted to withstand or provide protection against, abnormal external influences, e.g. war-like action, earthquake, extreme climate (floating buildings B63B; foundation aspects E02D; building constructions in general E04B; bearings or like supports allowing movement E04B 1/36; special details regarding insulation or other protection E04B 1/62; supporting structures for endangered or damaged existing buildings or parts thereof E04G 23/04; doors, windows E06B 5/00; air-conditioning, ventilation F24F; camouflage F41H 3/00; cells or rooms shielded against dangerous radiation G21F 7/00)
E04H 12/00	Towers; Masts, poles; Chimney stacks; Water-towers; Methods of erecting such structures (cooling towers E04H 5/12; supports for road signs E01F 9/011; foundation piles E02D 5/22; foundations for masts, poles, or chimneys E02D 27/42; structural elongated members in general E04C 3/00; fixed climbing irons E06C 9/04; derricks for oil drilling E21B 15/00) [6]
E04H 13/00	Monuments; Tombs; Burial vaults; Columbaria (sculpture or other artistic features B44)
E04H 14/00	Buildings for combinations of different purposes not covered in a single preceding group of this subclass, e.g. for double purpose (E04H 3/02, E04H 9/06 take precedence); Buildings of the drive-in type
E04H 6/00	Buildings for parking cars, rolling-stock, aircraft, vessels, or like vehicles, e.g. garages (tents for use as garages E04H 15/00; bicycle stands B62H; storing of vessels on land B63C 15/00; construction of ground-supported surfaces E01C; marking of parking areas on the ground E01F 9/00; building construction in general E04B 1/00)
E04H 3/00	Buildings or groups of buildings for public or similar purposes; Institutions, e.g. infirmaries, prisons (portions of buildings for individual occupation, e.g. cubicles, E04H 1/00; structures covering a large free area E04B 1/342)
E04H 7/00	Construction or assembling of bulk storage containers employing civil engineering techniques in situ or off the site (tower aspects E04H 12/00; storage aspects, e.g. floating roofs, sealing means, filling or discharging means B65D, B65G, F17B, F17C; foundations E02D 27/38) [2]
E04H 5/00	Buildings or groups of buildings for industrial or agricultural purposes (building construction in general E04B 1/00)
E04H 1/00	Buildings or groups of buildings for dwelling or office purposes; General layout, e.g. modular co-ordination, staggered storeys (E04H 3/00 takes precedence; buildings for two or more purposes, drive-in buildings E04H 14/00; building construction in general E04B 1/00)
E04H 15/00	Tents or canopies, in general [4]
E04H 4/00	Swimming or splash baths or pools (wave-producers for baths A47K 3/10; separation B01D; treatment of water C02F; wave-producing pumps F04D 35/00) [5]
E04H 17/00	Fencing, e.g. fences, enclosures, corrals (features peculiar to electrified fences A01K 3/00, H05C; means for allowing passage through fences, barriers, or the like E06B 11/00)

DE - Rapporteur Proposal
Project: R151/03

Subclass: E05B

25.3.2003

IPC	Maingroup Title
E05B 43/00	Time locks (clocks or clock mechanisms with attached or built-in means operating any device at preselected times or after a predetermined time interval G04C 23/00)
E05B 45/00	Alarm locks (alarm devices actuated by tampering with fastenings in general G08B)
E05B 75/00	Handcuffs
E05B 63/00	Locks with special structural characteristics
E05B 65/00	Locks for special use
E05B 67/00	Padlocks (permutation locks E05B 37/00); Details thereof
E05B 69/00	Devices for locking clothing; Lockable clothing holders or hangers (dress or hat holders in general A47G 25/00)
E05B 71/00	Locks specially adapted for bicycles, other than padlocks (locks integral with cycles B62H 5/00)
E05B 73/00	Devices for locking portable objects against unauthorised removal; Miscellaneous locking devices
E05B 1/00	Knobs or handles for wings (for furniture A47B 95/02); Knobs, handles, or press buttons for locks or latches on wings (E05B 5/00, E05B 7/00 take precedence)
E05B 3/00	Fastening handles to lock or latch parts
E05B 5/00	Handles completely let into the surface of the wing
E05B 7/00	Handles pivoted about an axis parallel to the wing (E05B 5/00 takes precedence)
E05B 9/00	Lock or latch-mechanism casings (padlock casings E05B 67/02)
E05B 11/00	Devices preventing keys from being removed from the lock
E05B 13/00	Devices preventing the key or the handle or both from being used
E05B 15/00	Other details of locks; Parts for engagement by bolts of fastening devices (fastening devices for wings other than locks or associated with locks E05C)
E05B 17/00	Accessories in connection with locks (buffers E05F 5/00; means for preventing rattling of wings E05F 7/04; means for taking the weight of the wing E05F 7/06) [4]
E05B 19/00	Keys; Accessories therefor (making keys, see the relevant places, e.g. B21D 53/42; milling grooves in keys B23C 3/35)
E05B 21/00	Locks with tumblers not following the movement of the bolt
E05B 23/00	Locks with tumblers following the movement of the bolt
E05B 25/00	Locks with special tumblers
E05B 27/00	Cylinder locks with tumbler pins or balls
E05B 29/00	Cylinder locks with plate tumblers
E05B 31/00	Cylinder locks with both tumbler pins or balls and plate tumblers
E05B 33/00	Cylinder locks in which the bolt is moved by means other than the key
E05B 35/00	Locks for use with special keys or a plurality of keys
E05B 49/00	Electric permutation locks; Circuits therefor
E05B 37/00	Permutation locks (electric permutation locks E05B 49/00; for bicycles E05B 71/02); Puzzle locks
E05B 39/00	Locks giving indication of unauthorised unlocking
E05B 41/00	Locks with visible indication as to whether the lock is locked or unlocked
E05B 47/00	Operating or controlling locks or other fastening devices by electric or magnetic means (electric permutation locks E05B 49/00; holding in open position or limiting movement of wings by magnetic or electromagnetic attraction E05C 17/56) [2]
E05B 51/00	Operating or controlling locks or other fastening devices by other non-mechanical means

E05B 53/00	Operation or control of locks by mechanical transmissions, e.g. from a distance (for passenger doors E05B 65/20)
E05B 55/00	Locks in which a sliding latch is used also as a locking bolt
E05B 57/00	Locks in which a pivoted latch is used also as locking means
E05B 59/00	Locks with latches separate from the lock-bolts, or with a plurality of latches or lock-bolts
E05B 61/00	Other locks with provision for latching

We prefer to have the locks for special applications at the top off the group scheme.

Further we put 49/00 (Electric permutation locks; Circuits therefor) before 37/00 (Permutation locks).

All other listed groups are arranged in the order of the existing guide headings (and within the guide headings in the existing order) -- the guide headings might be added.

DE - Rapporteur Proposal
Project: R152/03

25.3.2003

Subclass: E05C

IPC	Maingroup Title
E05C 9/00	Arrangement of simultaneously-actuated bolts or other securing devices at well-separated positions on the same wing (essentially involving locking means E05B 63/14; similar constructions for engineering closures for pressure vessels, in general F16J 13/08)
E05C 7/00	Fastening devices specially adapted for two wings
E05C 5/00	Fastening devices with bolts moving otherwise than only rectilinearly and only pivotally or rotatively
E05C 3/00	Fastening devices with bolts moving pivotally or rotatively
E05C 1/00	Fastening devices with bolts moving rectilinearly
E05C 17/00	Devices for holding wings open; Devices for limiting opening of wings or for holding wings open by a movable member extending between frame and wing; Braking devices, stops or buffers, combined therewith (combined with hinges E05D 11/00; combined with operating apparatus for wings E05F; other braking devices, stops, buffers E05F 5/00) [4]
E05C 19/00	Other devices specially designed for securing wings (movable draft sealings additionally used for bolting E06B 7/18) [2]
E05C 21/00	Arrangement or combinations of wing fastening, securing, or holding devices, not covered by a single preceding main group

DE - Rapporteur Proposal
Project: R153/03

Subclass: E05D

25.3.2003

IPC	Maingroup Title
E05D 7/00	Hinges or pivots of special construction (used for special suspension arrangements E05D 15/00; so as to be self-closing E05F 1/06, E05F 1/12; with means for raising wings before being turned E05F 7/02)
E05D 3/00	Hinges with pins
E05D 1/00	Pinless hinges; Substitutes for hinges
E05D 9/00	Flaps or sleeves specially designed for making from particular material, e.g. hoop-iron, sheet metal, plastics
E05D 5/00	Construction of single parts, e.g. the parts for attachment
E05D 13/00	Accessories for sliding or lifting wings, e.g. pulleys, safety catches (counterbalance devices E05F 1/00, E05F 3/00) [4]
E05D 11/00	Additional features or accessories of hinges
E05D 15/00	Suspension arrangements for wings (arrangements of wings not characterised by the construction of the supporting means E06B 3/32)

DE - Rapporteur Proposal
Project: R154/03

Subclass: E05F

25.3.2003

IPC	Maingroup Title
E05F 17/00	Special devices for shifting a plurality of wings operated simultaneously (for simultaneously moving a plurality of interconnected ventilating lamellae E06B 7/086) [2]
E05F 13/00	Mechanisms operated by the movement or weight of a person or vehicle (through power-operated wing-operating mechanisms E05F 15/00)
E05F 15/00	Power-operated mechanisms for wings
E05F 9/00	Means for operating wings by hand rods not guided in or on the frame, including those which also operate the fastening (bolts or fastening devices for wings E05C)
E05F 11/00	Man-operated mechanisms for operating wings, including those which also operate the fastening (connecting mechanisms for a plurality of wings E05F 17/00)
E05F 3/00	Closers or openers with braking devices, e.g. checks; Construction of pneumatic or liquid braking devices (construction of non-pneumatic or non-liquid braking devices E05F 5/00; friction devices in hinges E05D 11/08)
E05F 5/00	Braking devices, e.g. checks; Stops; Buffers (construction of pneumatic or liquid braking devices E05F 3/00; combined with devices for holding wings open E05C 17/00; devices for limiting opening of wings or for holding wings open by a movable member extending between frame and wing E05C 17/04) [4]
E05F 7/00	Miscellaneous accessories for wings (specially adapted for furniture A47B 95/00; door-lifters B66F, E04F 21/00; knobs or handles E05B) [2]
E05F 1/00	Closers or openers for wings, not otherwise provided for in this subclass

DE - Rapporteur Proposal
Project: R155/03

Subclass: E05G

25.3.2003

IPC	Maingroup Title
E05G 5/00	Bank protection devices (E05G 1/12, E05G 7/00 take precedence; closed-circuit television systems H04N 7/18) [2]
E05G 7/00	Safety transaction partitions, e.g. movable payplates (non-safety paying counters, e.g. for supermarkets, A47F 9/02) [2]
E05G 1/00	Safes or strong-rooms for valuables (savings boxes A45C 1/12; floatable safes B63C 7/30; storage containers without attack or fire repellent features B65D; bank buildings in general, e.g. modular construction, floor plan, E04H 1/06; buildings resistant to earthquake or war action E04H 9/00)

DE - Rapporteur Proposal
Project: R156/03

Subclass: E06B

25.3.2003

IPC	Maingroup Title
E06B 9/00	Screening or protective devices for openings, with or without operating or securing mechanisms; Closures of similar construction (E06B 5/10 takes precedence; wings for doors or windows, connected at their edges, E06B 3/48; additional indoor equipment of doors or windows, not forming part of the proper finishing work of a building, e.g. curtains, A47H; gratings as building elements E04C 2/42; locks, accessories therefor E05B; bolts or fastening devices for wings E05C; operating mechanism for wings in general E05F)
E06B 11/00	Means for allowing passage through fences, barriers, or the like, e.g. stiles (general features of doors E06B 1/00 to E06B 9/00)
E06B 7/00	Special arrangements or measures in connection with doors or windows (screening or similar protective devices E06B 9/00)
E06B 5/00	Doors, windows, or like closures for special purposes; Border constructions therefor
E06B 3/00	Window sashes, door leaves, or like elements for closing openings; Layout of fixed or moving closures, e.g. windows; Features of rigidly-mounted outer frames relating to the mounting of wing frames (E06B 5/00 takes precedence; shutters or the like E06B 9/00; glass panes C03; uniting glass sheets by fusion C03B 23/203; joining glass to glass other than by fusing or to other inorganic material C03C 27/00)
E06B 1/00	Border constructions of openings in walls, floors, or ceilings; Frames to be rigidly mounted in such openings (E06B 5/00 takes precedence; features relating also to inner frames or wing frames, features relating solely to the mounting of inner frames E06B 3/00; corner joints or edge joints E06B 3/96) [4]

DE - Rapporteur Proposal
Project: R157/03

Subclass: E06C

25.3.2003

IPC	Maingroup Title
E06C 5/00	Ladders characterised by being mounted on undercarriages or vehicles; Securing ladders on vehicles (ladders having wheels, rollers, or runners E06C 1/397)
E06C 9/00	Ladders characterised by being permanently attached to fixed structures, e.g. fire escapes (movable stairways E04F 11/04)
E06C 7/00	Component parts, supporting parts, or accessories
E06C 1/00	Ladders in general (mounted on undercarriages or vehicles E06C 5/00; permanently attached to fixed structures E06C 9/00)

DE - Rapporteur Proposal
Project: R158/03

Subclass: E21B

25.3.2003

IPC	Maingroup Title
E21B 44/00	Automatic control systems specially adapted for drilling operations, i.e. self-operating systems which function to carry out or modify a drilling operation without intervention of a human operator, e.g. computer-controlled drilling systems (for non-automatic drilling control, see the operation controlled; automatic feeding from rack and connecting of drilling pipes E21B 19/20; controlling pressure or flow of drilling fluid E21B 21/08); Systems specially adapted for monitoring a plurality of drilling variables or conditions (means for transmitting measuring-signals from the well to the surface E21B 47/12) [3]
E21B 6/00	Drives for drilling with combined rotary and percussive action (drives used in the borehole E21B 4/00; portable percussive machines with superimposed rotation B25D 16/00) [3]
E21B 4/00	Drives used in the borehole [3]
E21B 7/00	Special methods or apparatus for drilling (supports for the drilling machine, e.g. derricks or masts, E21B 15/00) [1,7]
E21B 3/00	Rotary drilling (drives used in the borehole E21B 4/00; rotary drilling machines in general B23B) [3]
E21B 1/00	Percussion drilling (drives used in the borehole E21B 4/00) [3]
E21B 11/00	Other drilling tools
E21B 10/00	Drill bits (specially adapted for deflecting the direction of boring E21B 7/08; valve drill bits E21B 27/00) [3]
E21B 12/00	Accessories for drilling tools [3]
E21B 17/00	Drilling rods or pipes; Flexible drill strings; Kellies; Drill collars; Sucker rods; Casings; Tubings (rod couplings in general F16D; tubes or tube couplings in general F16L)
E21B 23/00	Apparatus for displacing, setting, locking, releasing or removing tools, packers or the like in boreholes or wells (setting of casings, screens, or liners E21B 43/10)
E21B 25/00	Apparatus for obtaining or removing undisturbed cores, e.g. core barrels, core extractors (core bits E21B 10/02; using explosives or projectiles in boreholes E21B 49/04; side-wall sampling or coring E21B 49/06)
E21B 27/00	Bailers; Valve drill bits [6]
E21B 19/00	Handling rods, casings, tubes or the like outside the borehole, e.g. in the derrick; Apparatus for feeding the rods or cables (surface drives E21B 1/02, E21B 3/02)
E21B 15/00	Supports for the drilling machine, e.g. derricks or masts [1,7]
E21B 21/00	Methods or apparatus for flushing boreholes, e.g. by use of exhaust air from motor (freeing objects stuck in boreholes by flushing E21B 31/03; well drilling compositions C09K 7/00) [2,7]
E21B 28/00	Vibration generating arrangements for boreholes or wells, e.g. for stimulating production (for drilling E21B 7/24; for transmitting measuring-signals E21B 47/14; for geophysical measurements G01V 1/02) [6]
E21B 29/00	Cutting or destroying pipes, packers, plugs, or wire lines, located in boreholes or wells, e.g. cutting of damaged pipes, of windows (perforators E21B 43/11); Deforming of pipes in boreholes or wells; Reconditioning of well casings while in the ground
E21B 31/00	Fishing for or freeing objects in boreholes or wells (provisions on well heads for introducing or removing objects E21B 33/068; locating or determining the position of objects in boreholes or wells E21B 47/09)
E21B 33/00	Sealing or packing boreholes or wells
E21B 34/00	Valve arrangements for boreholes or wells (in drilling fluid circulation systems E21B 21/10; blow-out preventers E21B 33/06; oil flow regulating apparatus E21B 43/12; valves in general F16K) [3]

E21B 35/00	Methods or apparatus for preventing or extinguishing fires (cutting or deforming pipes to control fluid flow E21B 29/08; controlling flow of fluid to or in wells E21B 43/12; fire fighting in general A62C, A62D)
E21B 36/00	Heating, cooling, or insulating arrangements for boreholes or wells, e.g. for use in permafrost zones (drilling by use of heat E21B 7/14; secondary recovery methods using heat E21B 43/24) [3]
E21B 37/00	Methods or apparatus for cleaning boreholes or wells (E21B 21/00 takes precedence; cleaning pipes in general B08B 9/02)
E21B 43/00	Methods or apparatus for obtaining oil, gas, water, soluble or meltable materials or a slurry of minerals from wells (applicable only to water E03B; obtaining oil-bearing deposits or soluble or meltable materials by mining techniques E21C 41/00; pumps F04)
E21B 40/00	Tubing catchers, automatically arresting the fall of oil-well tubing
E21B 41/00	Equipment or details not covered by groups E21B 15/00 to E21B 40/00
E21B 49/00	Testing the nature of borehole walls; Formation testing; Methods or apparatus for obtaining samples of soil or well fluids, specially adapted to earth drilling or wells (sampling in general G01N 1/00)
E21B 47/00	Survey of boreholes or wells (monitoring pressure or flow of drilling fluid E21B 21/08; geophysical logging G01V)
E21B 45/00	Measuring the drilling time or rate of penetration

DE - Rapporteur Proposal
Project: R159/03

25.3.2003

Subclass: E21C

IPC	Maingroup Title
E21C 35/00	Miscellaneous items relating to machines for slitting or completely freeing the mineral from the seam
E21C 31/00	Driving means incorporated in machines for slitting or completely freeing the mineral from the seam
E21C 33/00	Trucks or other devices for transporting machines for slitting or completely freeing the mineral from the seam
E21C 29/00	Propulsion of machines for slitting or completely freeing the mineral from the seam
E21C 27/00	Machines which completely free the mineral from the seam
E21C 25/00	Cutting machines, i.e. for making slits approximately parallel or perpendicular to the seam (dislodging machines with slitting means E21C 27/02, E21C 27/10, E21C 27/18)
E21C 37/00	Other methods or devices for dislodging with or without loading (breaking-down by means inserted in slits E21C 27/14)
E21C 39/00	Devices for testing in situ the hardness or other properties of minerals, e.g. for giving information as to the selection of suitable mining tools
E21C 51/00	Apparatus for, or methods of, winning materials from extraterrestrial sources (cosmonautics B64G) [2]
E21C 45/00	Methods of hydraulic mining; Hydraulic monitors (E21C 25/60 takes precedence) [5]
E21C 50/00	Obtaining minerals from underwater, not otherwise provided for (suction dredgers or component parts thereof E02F 3/88; equipment for conveying or separating excavated material E02F 7/00; dippers G01N 1/12) [5]
E21C 47/00	Machines for obtaining, or the removal of, materials in open-pit mines (obtaining peat E21C 49/00)
E21C 41/00	Methods of underground or surface mining (E21C 45/00 takes precedence); Layouts therefor (for peat E21C 49/00) [5]
E21C 49/00	Obtaining peat; Machines therefor (treating peat C10F)

DE - Rapporteur Proposal
Project: R160/03

Subclass: E21D

25.3.2003

IPC	Maingroup Title
E21D 5/00	Lining shafts; Linings therefor (E21D 11/00 takes precedence) [3]
E21D 3/00	Raising shafts, i.e. working upwards from the bottom
E21D 1/00	Sinking shafts
E21D 7/00	Shaft equipment, e.g. timbering within the shaft
E21D 11/00	Lining tunnels, galleries or other underground cavities, e.g. large underground chambers; Linings therefor; Making such linings in situ, e.g. by assembling (E21D 15/00 to E21D 23/00 take precedence; specially for shafts E21D 5/00; lining pressure water galleries, linings therefor E02B 9/06) [2]
E21D 13/00	Large underground chambers; Methods or apparatus for making them (lining E21D 11/00) [6]
E21D 9/00	Tunnels or galleries, with or without linings; Methods or apparatus for making thereof (linings per se E21D 11/00); Layout of tunnels or galleries [3]
E21D 23/00	Mine roof supports for step-by-step movement, e.g. in combination with provisions for shifting of conveyers, mining machines, or guides therefor (shifting of mine conveyers at the working face, per se E21F 13/08)
E21D 17/00	Caps for supporting mine roofs
E21D 21/00	Anchoring-bolts for roof, floor, or shaft-lining protection (dowels or other devices fastened in walls or the like by inserting them in holes made therein for that purpose F16B 13/00) [5]
E21D 20/00	Setting anchoring-bolts (anchoring bolts for shafts, tunnels or galleries E21D 21/00; means for anchoring structural elements or bulkheads specially adapted to foundation engineering E02D 5/74; dowels or other devices fastened in walls or the like by inserting them in holes made therein for that purpose F16B 13/00) [5]
E21D 15/00	Props (in the building art E04G 25/00); Chocks
E21D 19/00	Provisional protective covers for working space (E21D 9/06, E21D 23/00 take precedence) [3]

DE - Rapporteur Proposal
Project: R161/03

25.3.2003

Subclass: E21F

IPC	Maingroup Title
E21F 1/00	Ventilation of mines or tunnels; Distribution of ventilating currents (ventilating rooms or spaces in general F24F) [2]
E21F 3/00	Cooling or drying of air (air-conditioning rooms or spaces in general F24F)
E21F 11/00	Rescue devices or other safety devices, e.g. safety chambers, escape ways (breathing aids for curative purposes A61H 31/00; respiratory apparatus A62B 7/00; revival apparatus A62B 33/00)
E21F 5/00	Means or methods for preventing, binding, depositing, or removing dust; Preventing explosions or fires (dams E21F 17/103; applying liquids or other fluent materials to surfaces in general B05) [6]
E21F 7/00	Methods or devices for drawing-off gases with or without subsequent use of the gas for any purpose
E21F 9/00	Devices preventing sparking of machines or apparatus (preventing sparking of electric machines or apparatus H01K, H02K)
E21F 13/00	Transport specially adapted to underground conditions (mine cars B61D; transport in general, loading B65G)
E21F 15/00	Methods or devices for placing filling-up materials in underground workings (dams E21F 17/103) [6]
E21F 16/00	Drainage (keeping dry foundation sites or other areas in the ground E02D 19/00) [2]
E21F 17/00	Methods or devices for use in mines or tunnels, not covered elsewhere (mine lighting F21, H05B) [2]

ANNEX 1

IPC	Maingroup Title
F01M 13/00	Crankcase ventilating or breathing [2]
F01M 1/00	Pressure lubrication
F01M 3/00	Lubrication specially adapted for engines with crankcase compression of fuel-air mixture, or for other engines in which lubricant is contained in fuel, combustion air, or fuel-air mixture (separating lubricant from air or fuel-air mixture before entry into cylinder F01M 11/08)
F01M 5/00	Heating, cooling, or controlling temperature of lubricant (arrangement of lubricant coolers in engine cooling system F01P 11/08); Lubrication means facilitating engine starting
F01M 7/00	Lubrication means specially adapted for machine or engine running-in
F01M 9/00	Lubrication means having pertinent characteristics not provided for in, or of interest apart from, groups F01M 1/00 to F01M 7/00
F01M 11/00	Component parts, details, or accessories, not provided for in, or of interest apart from, groups F01M 1/00 to F01M 9/00

Reasoning: 13/00 seems a little more specialised than the other groups and has been placed at the top. The other groups are in the right order and have been left unchanged.



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Rapporteur Proposal	Project: R163	Subclass: F04C	07 April 2003
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We apologise for this late proposal, thinking erroneously that the working group had already approved a rearrangement of F04C when treating project D018. However we believe that this new proposal without a splitting in two blocks as proposed in Annex 12 of D018 results in a better break down keeping similar subject matter together.

IPC	Maingroup Title
F04C 28/00	Control of, monitoring of, or safety arrangements for machines or engines specially adapted for elastic fluids
F04C 14/00	Control of, monitoring of, or safety arrangements for, machines, pumps or pumping installations
F04C 23/00	Combinations of two or more pumps, each being of rotary-piston or oscillating-piston type, specially adapted for elastic fluids; Multi-stage pumps specially adapted for elastic fluids (F04C 25/00 takes precedence)
F04C 11/00	Combinations of two or more machines or pumps, each being of rotary-piston or oscillating-piston type; Pumping installations (F04C 13/00 takes precedence; fluid gearing F16H)
F04C 19/00	Rotary-piston pumps with fluid ring or the like, specially adapted for elastic fluids
F04C 7/00	Rotary-piston machines or pumps with fluid ring or the like
F04C 5/00	Rotary-piston machines or pumps with the working-chamber walls at least partly resiliently deformable
F04C 3/00	Rotary-piston machines or pumps, with non-parallel axes of movement of co-operating members, e.g. of screw type (with the working-chamber walls at least partly resiliently deformable F04C 5/00)
F04C 18/00	Rotary-piston pumps specially adapted for elastic fluids (with fluid ring or the like F04C 19/00; rotary-piston pumps in which the working-fluid is exclusively displaced by one or more reciprocating pistons F04B) [3]
F04C 2/00	Rotary-piston machines or pumps (with non-parallel axes of co-operating members F04C 3/00; with the working-chamber walls at least partly resiliently deformable F04C 5/00; with fluid ring or the like F04C 7/00; rotary-piston machines or pumps in which the working-fluid is exclusively displaced by, or exclusively displaces, one or more reciprocating pistons F04B) [3]
F04C 25/00	Adaptations for special use of pumps for elastic fluids
F04C 13/00	Adaptations of machines or pumps for special use, e.g. for extremely high pressures
F04C 21/00	Oscillating-piston pumps specially adapted for elastic fluids
F04C 9/00	Oscillating-piston machines or pumps
F04C 27/00	Sealing arrangements in rotary-piston pumps specially adapted for elastic fluids (sealing in general F16J)
F04C 29/00	Component parts, details, or accessories, of pumps or pumping installations specially adapted for elastic fluids, not provided for in, or of interest apart from, groups F04C 18/00 to F04C 28/00
F04C 15/00	Component parts, details, or accessories, of machines, pumps, or pumping installations, not provided for in, or of interest apart from, other groups



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Principal Directorate Tools / Documentation

Rapporteur Proposal

Project: R164

Subclass: F15B

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IPC	Maingroup Title
F15B 20/00	Safety arrangements; Applications of safety devices (safety devices in general F16P); Emergency measures
F15B 19/00	Testing fluid-pressure systems or apparatus, so far as not provided for elsewhere
F15B 17/00	Combinations of telemotor and servomotor systems
F15B 18/00	Parallel arrangements of independent servomotor systems
F15B 9/00	Servomotors with follow-up action, i.e. in which the position of the actuated member conforms with that of the controlling member
F15B 11/00	Servomotor systems without provision for follow-up action (F15B 3/00 takes precedence)
F15B 7/00	Systems in which the movement produced is definitely related to the output of a volumetric pump; Telemotors
F15B 5/00	Transducers converting variations of physical quantities, e.g. expressed by variations in positions of members, into fluid-pressure variations or vice versa; Varying fluid pressure as a function of variations of a plurality of fluid pressures or variations of other quantities (F15B 9/00 takes precedence; for measuring or controlling G01, G05)
F15B 3/00	Intensifiers or fluid-pressure converters, e.g. pressure exchangers; Conveying pressure from one fluid system to another, without contact between the fluids
F15B 15/00	Fluid-actuated devices for displacing a member from one position to another (motors for continuous movement F01 to F03); Gearing associated therewith
F15B 1/00	Installations or systems with accumulators; Supply reservoir or sump assemblies
F15B 13/00	Details of servomotor systems (F15B 15/00 takes precedence)
F15B 21/00	Common features; Fluid-pressure systems, or details thereof, not covered by any preceding group

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Project: R165

Subclass: F15C

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IPC	Maingroup Title
F15C 5/00	Manufacture of fluid-circuit elements; Manufacture of assemblages of such elements
F15C 7/00	Hybrid elements, i.e. circuit elements having features according to groups F15C 1/00 and F15C 3/00 [2]
F15C 4/00	Circuit elements characterised by their special functions
F15C 3/00	Circuit elements having moving parts (valves, construction of valves F16K)
F15C 1/00	Circuit elements having no moving parts

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Rapporteur Proposal	Project: R166	Subclass: F15D	26 March 2003
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IPC	Maingroup Title
F15D 1/00	Influencing the flow of fluids



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Project: R167

Subclass: F16B

26 March 2003

IPC	Maingroup Title
F16B 11/00	Connecting constructional elements or machine parts by sticking or pressing them together, e.g. cold pressure welding (non-electric welding in general B23K; methods of using adhesives independently of the form of the surfaces joined C09J 5/00)
F16B 4/00	Shrinkage connection, e.g. assembled with the parts at different temperature; Force fits (restricted to metal parts or objects B23P 11/02); Non-releasable friction-grip fastenings (F16B 2/00 takes precedence)
F16B 12/00	Jointing of furniture or the like, e.g. hidden from exterior (F16B 2/00 to F16B 11/00 take precedence; fastening means per se F16B 13/00 to F16B 47/00; wood-working B27)
F16B 9/00	Connections of rods or tubular parts to flat surfaces at an angle (friction-grip releasable fastenings in general F16B 2/00; making press-fit connections B23P 11/00, B23P 19/00; fluid-tight connecting of pipes to reservoirs, sheets, or the like F16L, e.g. joining pipes to walls F16L 41/00; supports for pipes, cables or protective tubing F16L 3/00)
F16B 7/00	Connections of rods or tubes, e.g. of non-circular section, mutually, including resilient connections (umbrella frames A45B 25/02; welding or soldering of connections B23K; vehicle connections in general B60D; railway couplings B61G; bicycle frames B62K; couplings for transmitting rotation F16D; couplings for tubes conveying fluid F16L)
F16B 5/00	Joining sheets or plates to one another or to strips or bars parallel to them (by sticking together F16B 11/00; dowel connections F16B 13/00; pins, including deformable elements F16B 19/00; covering of walls E04F 13/00; fastening signs, plates, panels, or boards to a supporting structure, fastening readily-detachable elements, e.g. letters, to signs, plates, panels, or boards, G09F 7/00)
F16B 3/00	Key-type connections; Keys (F16B 2/00 takes precedence; for rods or tubes mutually F16B 7/00)
F16B 2/00	Friction-grip releasable fastenings (for cables or ropes, e.g. cleats, F16G 11/00; supports for pipes, cables or protective tubing F16L 3/00)
F16B 47/00	Suction cups for attaching purposes; Equivalent means using adhesives
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)

F16B 13/00	Dowels or other devices fastened in walls or the like by inserting them in holes made therein for that purpose (nails F16B 15/00; self-locking pins or bolts in general, stud-and-socket releasable fastenings F16B 21/00; dowels or bolts for railroad sleepers E01B 9/00; means for anchoring structural elements or bulkheads specially adapted to foundation engineering E02D 5/74; bolts or dowels used while laying bricks or casting concrete E04B 1/38; setting anchoring bolts in shafts, tunnels or galleries E21D 20/00; anchoring bolts for shafts, tunnels or galleries E21D 21/00) [5]
F16B 21/00	Means for preventing relative axial movement of a pin, spigot, shaft, or the like and a member surrounding it (riveted or deformable spigots F16B 19/04; for gudgeon pins F16J 1/18); Stud-and-socket releasable fastenings
F16B 19/00	Bolts without screw-thread; Pins, including deformable elements (in screwed connections F16B 29/00); Rivets (means for preventing withdrawal F16B 21/00)
F16B 15/00	Nails; Staples (surgical staples A61B 17/064; manufacture of nails or staples B21G; railway spikes E01B 9/06)
F16B 17/00	Connecting constructional elements or machine parts by a part of or on one member entering a hole in the other (construction of bolts, pins, or rivets F16B 19/00; riveting F16B 19/04; means for preventing withdrawal of a pin, spigot, or the like from its operative position, stud-and-socket releasable fastenings F16B 21/00)
F16B 41/00	Measures against loss of bolts, nuts, or pins; Measures against unauthorised operation of bolts, nuts, or pins (seals G09F 3/00)
F16B 39/00	Locking of screws, bolts, or nuts (locking of bottle closures B65D; locking of rail-fastening bolts for permanent ways E01B 9/12; locking of fastening means for railway fishplates E01B 11/38; locking devices for valves or cocks F16K)
F16B 29/00	Screwed connection with deformation of nut or auxiliary member while fastening (members deformed for locking screws, bolts or nuts F16B 39/22)
F16B 31/00	Screwed connections specially modified in view of tensile load; Break-bolts (shape of thread F16B 33/04)
F16B 27/00	Bolts, screws, or nuts formed in integral series but easily separable, particularly for use in automatic machines
F16B 23/00	Specially-shaped heads of bolts or screws for rotations by a tool
F16B 33/00	Features common to bolt and nut
F16B 25/00	Screws that form threads in the body into which they are screwed, e.g. wood screws, self-tapping screws [4]
F16B 37/00	Nuts or like thread-engaging members
F16B 35/00	Screw-bolts; Stay bolts; Screw-threaded studs; Screws; Set screws (thread-cutting screws F16B 25/00)
F16B 43/00	Washers or equivalent devices; Other devices for supporting bolt-heads or nuts (circlips F16B 21/18; with special means for locking bolts or nuts F16B 39/10, F16B 39/24)
F16B 1/00	Devices for securing together, or preventing relative movement between, constructional elements or machine parts



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Project: R168

Subclass: F16C

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IPC	Maingroup Title
F16C 1/00	Flexible shafts (flexible shafts in dental machines for boring or cutting A61C 1/18); Mechanical means for transmitting movement in a flexible sheathing
F16C 5/00	Crossheads; Constructions of connecting-rod heads or piston-rod connections rigid with crossheads (piston-rods, i.e. rods rigidly connected to the piston, F16J 7/00)
F16C 7/00	Connecting-rods or like links pivoted at both ends (coupling-rods for locomotive driving-wheels B61C; inhibiting shift in gearing during unfavourable conditions F16H 61/16); Construction of connecting-rod heads (heads rigid with crossheads F16C 5/00)
F16C 3/00	Shafts (flexible shafts F16C 1/00; marine propeller shafts, paddle wheel shafts B63H 23/34); Axles; Cranks; Eccentrics
F16C 9/00	Bearings for crankshafts or connecting-rods; Attachment of connecting-rods (lubrication of connecting-rods in connection with crankshafts F16C 3/14; connections to crossheads F16C 5/00, to pistons F16J 1/14)
F16C 11/00	Pivots; Pivotal connections (arrangements of steering linkage connections B62D 7/16)
F16C 15/00	Construction of rotary bodies to resist centrifugal force (flywheels, correction weights F16F 15/30, F16F 15/32)
F16C 13/00	Rolls, drums, discs, or the like (guide rollers in feeding webs B65H 27/00; calender rolls, bearings therefor D21G 1/02; pulleys F16H 55/00; rotary drums or rollers for heat-exchange or heat-transfer apparatus F28F 5/02; special adaptations, see the relevant classes); Bearings or mountings therefor
	Bearings for rotary parts
F16C 21/00	Combinations of sliding-contact bearings with ball or roller bearings (F16C 17/24, F16C 19/52 take precedence) [2]
F16C 23/00	Bearings adjustable for aligning or positioning (F16C 27/00 takes precedence)
F16C 25/00	Bearings adjustable for wear or play (F16C 27/00 takes precedence)
F16C 27/00	Elastic or yielding bearings or bearing supports (shock-damping bearings for watches or clocks G04B 31/02)
F16C 31/00	Bearings for parts which both rotate and move linearly
F16C 29/00	Bearings for parts moving only linearly (F16C 32/06 takes precedence; incorporated in flexible shafts F16C 1/28) [2]
F16C 17/00	Sliding-contact bearings (F16C 32/06 takes precedence; adjustable bearings F16C 23/00, F16C 25/00) [2]
F16C 19/00	Bearings with rolling contact (adjustable bearings F16C 23/00, F16C 25/00)
F16C 32/00	Bearings not otherwise provided for
F16C 43/00	Assembling bearings
F16C 37/00	Cooling of bearings
F16C 39/00	Relieving load on bearings
F16C 35/00	Rigid support of bearing units; Housings, e.g. caps, covers (F16C 23/00 takes precedence; elastic or yielding supports F16C 27/00)

F16C 33/00	Parts of bearings; Special methods for making bearings or parts thereof (metal-working or like operations, see the relevant classes)
F16C 41/00	Other accessories



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Rapporteur Proposal	Project: R169	Subclass: F16D	26 March 2003
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IPC	Maingroup Title
F16D 48/00	External control of clutches [6]
F16D 45/00	Freewheels or freewheel clutches combined with automatic clutches
F16D 41/00	Freewheels or freewheel clutches (cycle brakes controlled by back-peddalling B62L 5/00)
F16D 43/00	Internally controlled automatic clutches (varying the relationship between two coaxial shafts F16D 3/10; freewheels, freewheel clutches F16D 41/00; external control of clutches F16D 48/00) [6]
F16D 47/00	Systems of clutches, or clutches and couplings, comprising devices of types grouped under at least two of the following sets of groups: F16D 1/00 to F16D 9/00; F16D 11/00 to F16D 23/00; F16D 25/00 to F16D 29/00; F16D 31/00 to F16D 39/00; F16D 41/00 to F16D 45/00
	Coupling and clutches with a fluid or semifluid as power-transmitting means
F16D 39/00	Combinations of couplings according to two or more of the groups F16D 31/00 to F16D 37/00
F16D 37/00	Clutches in which the drive is transmitted through a medium consisting of small particles, e.g. centrifugally speed-responsive
F16D 35/00	Fluid clutches in which the clutching is predominantly obtained by fluid adhesion (F16D 37/00 takes precedence)
F16D 31/00	Fluid couplings or clutches with pumping sets of the volumetric type, i.e. in the case of liquid passing a predetermined volume per revolution
F16D 33/00	Rotary fluid couplings or clutches of the hydrokinetic type
	Clutches actuated non-mechanically
F16D 29/00	Clutches or systems of clutches involving both fluid and magnetic or both fluid and electric actuation [6]
F16D 25/00	Fluid-actuated clutches
F16D 27/00	Magnetically-actuated clutches; Control or electric circuits therefor (clutches with magnetisable particles F16D 37/02; circuits for external control F16D 48/00) [2]
F16D 28/00	Electrically-actuated clutches (clutches actuated directly by means of an electromagnet F16D 27/00) [6]
	Clutches with mechanically-actuated clutching members
F16D 21/00	Systems comprising a plurality of mechanically-actuated clutches (for synchronisation F16D 23/04)
F16D 15/00	Clutches with wedging balls or rollers or with other wedgeable separate clutching members (freewheels, freewheel clutches F16D 41/00)
F16D 17/00	Clutches in which the drive is transmitted solely by virtue of the eccentricity of the contacting surfaces of clutch members which fit one around the other
F16D 11/00	Clutches in which the members have interengaging parts (arrangements for synchronisation F16D 23/02)

F16D 13/00	Friction clutches (arrangements for synchronisation F16D 23/02)
F16D 19/00	Clutches with mechanically-actuated clutching members not otherwise provided for
F16D 23/00	Details of mechanically-actuated clutches not specific for one distinct type
	Couplings
F16D 5/00	Impulse couplings, i.e. couplings that alternately accelerate and decelerate the driven member
F16D 7/00	Slip couplings, e.g. slipping on overload, for absorbing shock (combined with yielding shaft couplings F16D 3/14; fluid slip couplings F16D 31/00 to F16D 35/00)
F16D 9/00	Couplings with safety member for disconnecting
F16D 3/00	Yielding couplings, i.e. with means permitting movement between the connected parts during the drive (couplings disconnectable simply by axial movement F16D 1/10; slip couplings F16D 7/00)
F16D 1/00	Couplings for rigidly connecting two coaxial shafts or other movable machine elements (attachment of wheels to axles for railway carriages B60B; for attachment of cranks to their shafts F16C 3/10)
	Brakes
F16D 71/00	Mechanisms for bringing members to rest in a predetermined position (combined with, or controlling, clutches F16D 43/26; means for initiating operation of brakes at a predetermined position F16D 65/14; means for securing members after operation F16B 1/02)
F16D 66/00	Arrangements for monitoring working conditions, e.g. wear, temperature
F16D 67/00	Combinations of couplings and brakes; Combinations of clutches and brakes (F16D 71/00 takes precedence; combinations of couplings and clutches F16D 47/02; control of those combinations B60K 41/00, e.g. B60K 41/24) [2]
F16D 57/00	Liquid-resistance brakes; Air-resistance brakes
F16D 61/00	Brakes with means for making the energy absorbed available for use (F16D 57/00 takes precedence)
F16D 59/00	Self-acting brakes, e.g. coming into operation at a predetermined speed
F16D 53/00	Brakes with braking members co-operating with both the periphery and the inner surface of a drum, wheel-rim, or the like (similar clutches F16D 13/20)
F16D 49/00	Brakes with a braking member co-operating with the periphery of a drum, wheel-rim, or the like (similar clutches F16D 13/10)
F16D 51/00	Brakes with outwardly-movable braking members co-operating with the inner surface of a drum or the like (similar clutches F16D 13/14)
F16D 55/00	Brakes with substantially-radial braking surfaces pressed together in axial direction, e.g. disc brakes (similar clutches F16D 13/38)
F16D 63/00	Brakes not otherwise provided for; Brakes combining a plurality of the before-mentioned types (brakes with auxiliary members for self-tightening F16D 49/22, F16D 51/66, F16D 55/50)
F16D 69/00	Friction linings; Attachment thereof; Selection of coating friction substances or surfaces (clutching elements F16D 13/60; braking members F16D 65/02)
F16D 65/00	Parts or details (similar members for clutches F16D 13/58)
	Indexing scheme
F16D 101/00	Selector apparatus for change-speed or reversing gearing [6]
F16D 103/00	Inputs being a function of torque or torque demand [6]
F16D 105/00	Inputs being a function of speed [6]
F16D 107/00	Inputs being a function of acceleration [6]
F16D 109/00	Inputs being a function of machine status [6]
F16D 111/00	Inputs being a function of ambient conditions [6]

F16D 113/00	Inputs being a function of clutch status, e.g. engaged, disengaged [6]
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Project: R170

Subclass: F16F

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IPC	Maingroup Title
F16F 15/00	Suppression of vibrations in systems (vehicle seat suspension devices B60N 2/50); Means or arrangements for avoiding or reducing out-of-balance forces, e.g. due to motion (testing static or dynamic balance of machines or structures G01M 1/00)
F16F 13/00	Units comprising springs of the non-fluid type as well as vibration-dampers, shock-absorbers, or fluid springs (F16F 5/00 takes precedence)
F16F 11/00	Vibration-dampers or shock-absorbers working with both friction and a damping fluid
F16F 9/00	Springs, vibration-dampers, shock-absorbers, or similarly-constructed movement-dampers using a fluid or the equivalent as damping medium (F16F 5/00 takes precedence; connection of valves to inflatable elastic bodies B60C 29/00; door-operating appliances with fluid braking systems E05F)
F16F 7/00	Vibration-dampers; Shock-absorbers (using fluid F16F 5/00, F16F 9/00; specific for rotary systems F16F 15/10)
F16F 6/00	Magnetic springs; Fluid magnetic springs
F16F 5/00	Liquid springs in which the liquid works as a spring by compression, e.g. combined with throttling action; Combinations of devices including liquid springs
F16F 3/00	Spring units consisting of several springs, e.g. for obtaining a desired spring characteristic (including fluid springs F16F 5/00, F16F 13/00)
F16F 1/00	Springs (working with fluid F16F 5/00, F16F 9/00)
F16F 101/00	Serial arrangement of gyratory masses [6]
F16F 103/00	Parallel arrangement of gyratory masses [6]



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Project: R171

Subclass: F16G

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IPC	Maingroup Title
F16G 5/00	V-belts, i.e. belts of tapered cross-section
F16G 7/00	V-belt fastenings
F16G 1/00	Driving-belts (V-belts F16G 5/00; conveyer belts B65G)
F16G 3/00	Belt fastenings, e.g. for conveyer belts (for V-belts F16G 7/00)
F16G 9/00	Ropes or cables specially adapted for driving, or for being driven by, pulleys or other gearing elements (ropes or cables in general D07B)
F16G 11/00	Means for fastening cables or ropes to one another or to other objects (cable clamps for suspension bridge cables E01D 19/16); 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)
F16G 13/00	Chains (making thereof B21L)
F16G 15/00	Chain couplings; Shackles; Chain joints; Chain links; Chain bushes (making chain elements B21L)
F16G 17/00	Hooks as integral parts of chains (hooks for cranes B66C 1/34; hooks in general F16B 45/00)



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Subclass: F16H

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IPC	Maingroup Title
F16H 61/00	Control functions within change-speed- or reversing-gearings for conveying rotary motion [5]
F16H 63/00	Control outputs to change-speed- or reversing-gearings for conveying rotary motion [5]
F16H 59/00	Control inputs to change-speed- or reversing-gearings for conveying rotary motion [5]
	Fluid gearing
F16H 47/00	Combinations of mechanical gearing with fluid clutches or fluid gearing (conjoint control of clutch and gearing B60K 41/22) [2]
F16H 45/00	Combinations of fluid gearings for conveying rotary motion with couplings or clutches (F16H 41/22 takes precedence; conjoint control of clutch and gearing B60K 41/22) [2]
F16H 39/00	Rotary fluid gearing using pumps and motors of the volumetric type, i.e. passing a predetermined volume of fluid per revolution (control of exclusively fluid gearing F16H 61/38; application to lifting or pushing equipment B66F) [5]
F16H 41/00	Rotary fluid gearing of the hydrokinetic type (control of exclusively fluid gearing F16H 61/38) [5]
F16H 43/00	Other fluid gearing, e.g. with oscillating input or output [2]
F16H 33/00	Gearings based on repeated accumulation and delivery of energy
	Gearings for conveying or converting motion by means of levers, links, or cams
F16H 21/00	Gearings comprising primarily only links or levers, with or without slides
F16H 23/00	Wobble-plate gearings; Oblique-crank gearings
F16H 25/00	Gearings comprising primarily only cams, cam-followers and screw-and-nut mechanisms
	Gearings with intermittently-driving members
F16H 27/00	Step-by-step mechanisms without freewheel members, e.g. Geneva drives (rotary gearings with cyclically-varying velocity ratio F16H 35/02; impulse couplings F16D 5/00; clockwork escapements G04B 15/00)
F16H 29/00	Gearings for conveying rotary motion with intermittently-driving members, e.g. with freewheel action (freewheels F16D 41/00)
F16H 31/00	Other gearings with freewheeling members or other intermittently-driving members (F16H 21/00, F16H 23/00, F16H 25/00 take precedence; gearings involving the use of automatic changing-mechanisms, e.g. cyclically-actuated reversal gearings, see the appropriate groups)
	Gearings for conveying rotary motion

F16H 19/00	Gearings comprising essentially only toothed gears or friction members and not capable of conveying indefinitely-continuing rotary motion (with intermittently-driving members F16H 27/00 to F16H 31/00; rope or like tackle for lifting or haulage B66D 3/00)
F16H 9/00	Gearings for conveying rotary motion with variable gear ratio, or for reversing rotary motion, by endless flexible members (control of change-speed or reversing-gearings conveying rotary motion F16H 59/00 to F16H 63/00)
F16H 7/00	Gearings for conveying rotary motion by endless flexible members (specific for conveying rotary motion with variable gear ratio or for reversing rotary motion F16H 9/00)
F16H 15/00	Gearings for conveying rotary motion with variable gear ratio, or for reversing rotary motion, by friction between rotary members (control of change-speed or reversing-gearings conveying rotary motion F16H 59/00 to F16H 63/00)
F16H 13/00	Gearing for conveying rotary motion with constant gear ratio by friction between rotary members (specific for conveying rotary motion with variable gear ratio or for reversing rotary motion F16H 15/00)
F16H 3/00	Toothed gearings for conveying rotary motion with variable gear ratio or for reversing rotary motion (speed-changing or reversing mechanisms F16H 59/00 to F16H 63/00)
F16H 1/00	Toothed gearings for conveying rotary motion (specific for conveying rotary motion with variable gear ratio or for reversing rotary motion F16H 3/00)
F16H 48/00	Differential gearings [6]
F16H 37/00	Combinations of mechanical gearings, not hereinbefore provided for (applications of underdrives or overdrives in motor vehicles, combinations with differential gearings in motor vehicles B60K)
F16H 35/00	Gearings or mechanisms with other special functional features
F16H 49/00	Other gearing
	Details of gearing or mechanisms
F16H 57/00	General details of gearing
F16H 55/00	Elements with teeth or friction surfaces for conveying motion; Worms; Pulleys; Sheaves (pulley-blocks for lifting or hauling appliances B66D 3/04) [4]
F16H 53/00	Cams; Non-rotary cams; Cam-followers, e.g. rollers (cams specially adapted for reciprocating-piston liquid engines F03C 1/30)
F16H 51/00	Levers (manipulating levers G05G)
	Indexing scheme
F16H 105/00	Change-speed gearing in group arrangement, i.e. with separate change-speed gear trains arranged in series, e.g. range- or overdrive-type gearing arrangements [7]
F16H 107/00	Differential or balance gearing [7]
F16H 109/00	Changing the number of driven wheels [7]
F16H 101/00	Continuously variable gearing [7]
F16H 103/00	Stepped gearing [7]



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Project: R173

Subclass: F16J

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IPC	Maingroup Title
F16J 3/00	Diaphragms; Bellows; Bellows pistons (connection of valves to inflatable elastic bodies B60C 29/00; bellows or the like used in instruments G12B 1/04; diaphragms for electromechanical transducers H04R 7/00)
F16J 1/00	Pistons; Trunk pistons; Plungers (bellows pistons F16J 3/06; piston-rings or seats therefor F16J 9/00; rotary pistons, e.g. for "Wankel" type engines, F01C; specific for combustion engines, i.e. constructed to withstand high temperature or modified for guiding, igniting, vaporising, or otherwise treating the charge, F02F; pistons specially adapted for reciprocating-piston liquid engines F03C 1/28; for pumps F04B; floats F16K 33/00)
F16J 7/00	Piston-rods, i.e. rods rigidly connected to the piston (connecting-rods or like links pivoted at both ends F16C 7/00)
F16J 9/00	Piston-rings, seats therefor; Ring sealings of similar construction in general (other sealings between pistons and cylinders F16J 3/06, F16J 15/16; tools for mounting or removing piston-rings or the like B25B; piston sealing arrangements on brake master cylinders B60T 11/236) [2,5]
F16J 10/00	Engine or like cylinders (pressure vessels in general F16J 12/00; cylinders for engines or other apparatus of particular kinds, see the appropriate subclasses, e.g. for combustion engines F02F); Features of hollow, e.g. cylindrical, bodies in general [3]
F16J 12/00	Pressure vessels in general (covers therefor F16J 13/00; for particular applications, see the relevant subclasses, e.g. B01J, F17C, G21C) [3]
F16J 13/00	Covers or similar closure members for pressure vessels in general (for engine or like cylinders F16J 10/00; sealings F16J 15/02; covers for box-like containers B65D 43/00; devices for securing or retaining closure members B65D 45/00; closures for containers not otherwise provided for B65D 51/00; manholes, covers for large containers B65D 90/10; gates or closures for large containers B65D 90/54; for vessels for containing or storing compressed, liquefied or solidified gases F17C 13/06; steam boilers F22B)
F16J 15/00	Sealings (sealing arrangements for vehicle windows, windscreens, non-fixed roofs, doors, or similar devices B60J 10/00; sealing or packing elements for container closures B65D 53/00; sealing arrangements in rotary-piston machines or engines F01C 19/00; sealings in non-positive-displacement machines or engines F01D 11/00; arrangements of sealings in combustion engines F02F 11/00; sealing arrangements in rotary-piston pumps F04C 27/00; sealing lead-in or lead-through insulators H01B 17/30) [5]



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Project: R174

Subclass: F16K

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IPC	Maingroup Title
	Constructional types
F16K 11/00	Multiple-way valves, e.g. mixing valves; Pipe fittings incorporating such valves; Arrangement of valves and flow lines specially adapted for mixing fluid [4]
F16K 1/00	Lift valves, i.e. cut-off apparatus with closure members having at least a component of their opening and closing motion perpendicular to the closing faces (diaphragm valves F16K 7/00)
F16K 7/00	Diaphragm cut-off apparatus, e.g. with a member deformed, but not moved bodily, to close the passage (container gates or closures operating by deformation of flexible walls B65D 90/56; means for plugging pipes or hoses F16L 55/10)
F16K 5/00	Taps or cocks comprising only cut-off apparatus having at least one of the sealing faces shaped as a more or less complete surface of a solid of revolution, the opening and closing movement being predominantly rotary (taps of the lift-valve type F16K 1/00)
F16K 3/00	Gate valves or sliding valves, i.e. cut-off apparatus with closing members having a sliding movement along the seat for opening and closing (F16K 5/00 takes precedence; in barrages or weirs E02B 8/04)
F16K 13/00	Other constructional types of cut-off apparatus (means for plugging pipes or hoses F16L 55/10); Arrangements for cutting-off [4]
	Functional types
F16K 17/00	Safety valves; Equalising valves (pressure relief devices for aerosol containers B65D 83/70)
F16K 24/00	Devices, e.g. valves, for venting or aerating enclosures (equalising valves F16K 17/00; arrangement or mounting in pipes or pipe systems F16L 55/07; venting or aerating as an additional function of steam traps or like apparatus F16T; ventilation of rooms, vehicles, see the appropriate subclass, e.g. F24F) [2]
F16K 23/00	Valves for preventing drip from nozzles
F16K 15/00	Check valves (valves specially adapted for inflatable balls A63B 41/00)
F16K 21/00	Fluid-delivery valves (specially adapted for aerosol containers B65D 83/44; for liquid handling B67D; for flushing devices for water-closets or the like E03D)
	Details
F16K 35/00	Means to prevent accidental or unauthorised actuation
F16K 37/00	Special means in or on valves or other cut-off apparatus for indicating or recording operation thereof, or for enabling an alarm to be given
F16K 49/00	Means in or on valves for heating or cooling (for pipes F16L 53/00; thermal insulation in connection with pipes or pipe systems F16L 59/16)
F16K 47/00	Means in valves for absorbing fluid energy (for pipes F16L 55/00)
F16K 29/00	Arrangements for movement of valve members other than for opening or closing the valve, e.g. for grinding-in, for preventing sticking

F16K 43/00	Auxiliary closure means in valves, which in case of repair, e.g. rewashering, of the valve, can take over the function of the normal closure means; Devices for temporary replacement of parts of valves for the same purpose
F16K 33/00	Floats for actuation of valves or other apparatus
F16K 31/00	Operating means; Releasing devices
F16K 39/00	Devices for relieving the pressure on the sealing faces
F16K 25/00	Details relating to contact between valve members and seats (movement of valve members other than for opening and closing F16K 29/00; sealing constructions, see the appropriate groups according to the type of valve)
F16K 41/00	Spindle sealings
F16K 27/00	Construction of housings (methods for welding housings B23K); Use of materials therefor
F16K 51/00	Other details not peculiar to particular types of valves or cut-off apparatus



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Project: R175

Subclass: F16L

26 March 2003

IPC	Maingroup Title
F16L 1/00	Laying or reclaiming pipes; Repairing or joining pipes on or under water (soldering or welding B23K; lifting-gear and load-engaging elements B66; hydraulic installations, soil drainage E02B; excavations or underwater constructions E02D; machines for digging trenches in combination with pipe-assembly E02F; laying sewer pipes E03F 3/06; in earth boreholes or wells E21B; tunnelling E21D; laying electric, or combined optical and electric, cables H02G; making special pipe joints, see the relevant groups for the joints) [2,5,6]
F16L 7/00	Supporting pipes or cables inside other pipes or sleeves, e.g. for enabling pipes or cables to be inserted or withdrawn from under roads or railways without interruption of traffic (sleeves for supporting pipes, cables or protective tubing, between relatively movable points F16L 3/01) [5]
F16L 5/00	Devices for use where pipes, cables or protective tubing pass through walls or partitions (installations of electric cables or lines through walls, floors or ceilings H02G 3/22)
F16L 3/00	Supports for pipes, cables or protective tubing, e.g. hangers, holders, clamps, cleats, clips, brackets (anchors for holding pipes on or under the ground F16L 1/06; noise absorbers in the form of specially adapted hangers or supports F16L 55/035; arrangements specially adapted for supporting insulated bodies F16L 59/12) [5,7]
F16L 57/00	Protection of pipes or objects of similar shape against external or internal damage or wear (supporting of pipes inside other pipes or sleeves F16L 7/00; used in connection with end fittings of hoses F16L 35/00; protection of pipes or pipe fittings against corrosion or incrustation F16L 58/00; protection thereof during transport B65D, e.g. B65D 59/00)
F16L 58/00	Protection of pipes or pipe fittings against corrosion or incrustation (supporting of pipes inside other pipes or sleeves F16L 7/00; compound tubes F16L 9/14; cleaning pipes or tubes B08B 9/02)
F16L 53/00	Heating or cooling pipes or pipe systems (preventing freezing of pipes, thawing frozen pipes E03B 7/12, E03B 7/14; pipe-line systems, pipe-lines F17D)
F16L 51/00	Expansion-compensation arrangements for pipe-lines (telescopic pipes F16L 27/12)
F16L 45/00	Pipe units with cleaning aperture and closure therefor
F16L 43/00	Bends; Siphons (with cleaning apertures F16L 45/00; siphons for water-closets E03D 11/18; siphons in general F04F 10/00)
F16L 39/00	Joints or fittings for double-walled or multi-channel pipes or pipe assemblies
F16L 41/00	Branching pipes; Joining pipes to walls (F16L 39/00 takes precedence; connections not designed for conveying fluid F16B 9/00; joints suitable for connecting together pipe ends, see the relevant groups)

F16L 29/00	Joints with fluid cut-off means (quick-acting joints with cut-off means F16L 37/28)
F16L 47/00	Connecting arrangements or other fittings specially adapted to be made of plastics or to be used with pipes made of plastics (packing, for joints, adapted to sealing by fluid pressure F16L 17/00)
F16L 49/00	Connecting arrangements, e.g. joints, specially adapted for pipes of brittle material, e.g. glass, earthenware
F16L 37/00	Couplings of the quick-acting type (radially-binding sleeves F16L 17/04, F16L 21/06; connecting hoses to rigid members F16L 33/00; connections made automatically when vehicles are brought together B60D, B61G; specially adapted for lubricating devices F16N 21/00)
F16L 35/00	Special arrangements used in connection with end fittings of hoses, e.g. safety or protecting devices
F16L 33/00	Arrangements for connecting hoses to rigid members (hand tools for inserting fittings into hoses B25B 27/10); Rigid hose-connectors, i.e. single members engaging both hoses (connecting arrangements or other fittings specially adapted to be made of plastics or to be used with pipes made of plastics F16L 47/00)
F16L 31/00	Arrangements for connecting hoses to one another or to flexible sleeves (F16L 33/00 takes precedence)
F16L 27/00	Adjustable joints; Joints allowing movement (of the quick-acting type F16L 37/50; for double-walled or multi-channel pipes or pipe assemblies F16L 39/04; swivel joints in hose lines used for flushing boreholes E21B 21/02) [5]
F16L 17/00	Joints with packing adapted to sealing by fluid pressure (compensating devices F16L 51/00)
F16L 19/00	Joints in which sealing surfaces are pressed together by means of a member, e.g. a swivel nut, screwed on, or into, one of the joint parts (F16L 17/00 takes precedence; if using bolts or equivalent connecting means F16L 23/00 ; connecting arrangements or other fittings specially adapted to be made of plastics or to be used with pipes made of plastics F16L 47/00)
F16L 15/00	Screw-threaded joints (casing joints used in deep-drilling E21B 17/08; joints sealed primarily by means other than engagement of screw-threads, see the relevant groups characterised by the sealing arrangements); Forms of screw-threads for such joints
F16L 13/00	Non-disconnectable pipe joints, e.g. soldered, adhesive, or caulked joints (joints for rigid pipes of plastics F16L 47/00)
F16L 21/00	Joints with sleeve or socket (F16L 13/00, F16L 17/00, F16L 19/00 take precedence; connecting arrangements or other fittings specially adapted to be made of plastics or to be used with pipes made of plastics F16L 47/00; specially adapted for pipes of brittle material F16L 49/00)
F16L 23/00	Flanged joints (F16L 13/00, F16L 17/00, F16L 19/00 take precedence; adjustable joints F16L 27/00; for hoses F16L 33/00; couplings of the quick-acting type F16L 37/00; for double-walled or multi-channel pipes, or pipe assemblies F16L 39/00; connecting arrangements or other fittings specially adapted to be made of plastics or to be used with pipes made of plastics F16L 47/00; specially adapted for pipes of brittle material F16L 49/00)
F16L 25/00	Construction or details of pipe joints not provided for in, or of interest apart from, groups F16L 13/00 to F16L 23/00 (adjustable or allowing movement F16L 27/00; with fluid cut-off means F16L 29/00; quick-acting F16L 37/00; for double-walled or multi-channel pipes F16L 39/00; connecting arrangements or other fittings specially adapted to be made of plastics or to be used with pipes made of plastics F16L 47/00; specially adapted for pipes of brittle material F16L 49/00)

F16L 11/00	Hoses, i.e. flexible pipes (hose-like supports for pipes, cables or protective tubing, between relatively movable points F16L 3/01; suction-cleaner hoses A47L 9/24) [5]
F16L 9/00	Rigid pipes
F16L 59/00	Thermal insulation in general (heat, sound insulation in buildings E04B; heat insulation of steam engines F01B 31/08; heat insulation in rotary piston machines or engines F01C 21/06; heat insulation of pumps F04C 29/04; thermal insulation of pressure vessels F17C 1/12; vessels not under pressure, with provision for insulation F17C 3/02)
F16L 55/00	Devices or appurtenances for use in, or in connection with, pipes or pipe systems (the preceding groups and groups F16L 57/00, F16L 59/00 take precedence; repairing or joining pipes on or under water F16L 1/26; nozzles B05B; cleaning of pipes B08B 9/02, e.g. removal of blockages B08B 9/027; devices for preventing bursting of water pipes by freezing E03B 7/10; for domestic plumbing installations E03C 1/00; arrangements for sealing leaky tubes or conduits of heat-exchangers F28F 11/00)
F16L 101/00	Uses or applications of pigs or moles [6]



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Project: R176

Subclass: F16M

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IPC	Maingroup Title
F16M 3/00	Portable or wheeled frames or beds, e.g. for emergency power-supply aggregates, compressor sets (construction of vehicles in general B60 to B62)
F16M 9/00	Special layout of foundations with respect to machinery to be supported (foundations for machinery E02D 27/44)
F16M 5/00	Engine beds, i.e. means for supporting engines or machines on foundations
F16M 1/00	Frames or casings of engines, machines, or apparatus; Frames serving as machinery beds [2]
F16M 7/00	Details of attaching or adjusting engine beds, frames, or supporting-legs on foundation or base; Attaching non-moving engine parts, e.g. cylinder blocks (elastic or equivalent mounting for absorbing vibrations F16F, especially F16F 15/04)
F16M 11/00	Stands or trestles as supports for apparatus or articles placed thereon (without heads F16M 13/00; easels or stands for blackboards or the like A47B 97/04; show-stands A47F 7/00; for workmen E04G 1/32; supporting, suspending for lighting devices F21V 21/00; special modifications for particular apparatus or articles, see the appropriate subclasses)
F16M 13/00	Other supports for positioning apparatus or articles (heads thereof F16M 11/02; adapted to be stuck in the ground A45F 3/44); Means for steadying hand-held apparatus or articles

ANNEX 1

IPC	Maingroup Title
F16N 15/00	Lubrication with substances other than oil or grease; Lubrication characterised by the use of particular lubricants in particular apparatus or conditions (F16N 17/00 takes precedence; lubricating compositions, selection of particular substances as lubricants in general C10M; bearings with surfaces incorporating lubricant F16C 33/04; lubrication specially adapted to machines or apparatus provided for in a single other class, see the relevant class for the machine or apparatus)
F16N 17/00	Lubrication of machines or apparatus working under extreme conditions (additives to lubricating oil or lubricating grease C10M)
F16N 1/00	Constructional modifications of parts of machines or apparatus for the purpose of lubrication
F16N 3/00	Devices for supplying lubricant by manual action (draining equipment for liquid containers B65D)
F16N 5/00	Apparatus with hand-positioned nozzle supplied with lubricant under pressure (F16N 3/00 takes precedence)
F16N 7/00	Arrangements for supplying oil or unspecified lubricant from a stationary reservoir or the equivalent in or on the machine or member to be lubricated (axle-box lubrication for railway rolling-stock B61F 17/00)
F16N 9/00	Arrangements for supplying oil or unspecified lubricant from a moving reservoir or the equivalent (also usable with a stationary reservoir F16N 7/00)
F16N 11/00	Arrangements for supplying grease from a stationary reservoir or the equivalent in or on the machine or member to be lubricated; Grease cups
F16N 33/00	Mechanical arrangements for cleaning lubricating equipment; Special racks or the like for use in draining lubricant from machine parts
F16N 35/00	Storage of lubricants in engine-rooms or the like (storage containers B65)
F16N 37/00	Equipment for transferring lubricant from one container to another
F16N 39/00	Arrangements for conditioning of lubricants in the lubricating system (cleaning of lubricating oil, lubricating compositions C10M)
F16N 13/00	Lubricating-pumps (oil cans with pump F16N 3/08; pumps for liquids in general F04)
F16N 19/00	Lubricant containers for use in lubricators or lubrication systems
F16N 21/00	Conduits; Junctions (in general F16L); Fittings for lubrication apertures
F16N 23/00	Special adaptations of check valves (check valves in general F16K)
F16N 25/00	Distributing equipment
F16N 27/00	Proportioning devices (liquid meters G01F)
F16N 29/00	Special means in lubricating arrangements or systems providing for the indication or detection of undesired conditions; Use of devices responsive to conditions in lubricating arrangements or systems (in bearings F16C; constructions of apparatus outside the lubricating arrangements or systems, see the relevant classes)
F16N 31/00	Means for collecting, retaining, or draining-off lubricant in or on machines or apparatus (oil separators for separating oil from exhaust steam F22G)

Reasoning: Groups 15/00 and 17/00 are regarded as “special lubrication” (see subclass index) and have been placed at the top. Groups 13/00 and 19/00 - 31/00 are “details” places and have been placed below groups 33/00 to 39/00 which I consider as basic subclass subject-matter, albeit in a somewhat secondary way.



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Project: R178

Subclass: F16P

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IPC	Maingroup Title
F16P 5/00	Emergency means for rendering ineffective a coupling conveying reciprocating movement if the motion of the driven part is prematurely resisted
F16P 3/00	Safety devices acting in conjunction with the control or operation of a machine; Control arrangements requiring the simultaneous use of two or more parts of the body (F16P 5/00 takes precedence)
F16P 1/00	Safety devices independent of the control or operation of any machine (protective devices for the eyes or ears, worn on the body or carried in the hand, A61F 9/00, A61F 11/00)
F16P 7/00	Emergency devices preventing damage to a machine or apparatus (F16P 1/00, F16P 3/00, F16P 5/00 take precedence; indicating means, see the appropriate classes)



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Project: R179

Subclass: F16S

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IPC	Maingroup Title
F16S 1/00	Sheets, panels, or other members of similar proportions; Constructions comprising assemblies of such members (built-up gratings F16S 3/00; layered products B32B)
F16S 3/00	Elongated members, e.g. profiled members; Assemblies thereof; Gratings or grilles (gratings or grilles formed from a sheet or the like F16S 1/00, particularly F16S 1/08; frames for doors, windows or the like E06B 1/00, E06B 3/00)
F16S 5/00	Other constructional members not restricted to an application fully provided for in a single class



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Rapporteur Proposal	Project: R180	Subclass: F16T	26 March 2003
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IPC	Maingroup Title
F16T 1/00	Steam traps or like apparatus for draining-off liquids from enclosures predominantly containing gases or vapours, e.g. gas lines, steam lines, containers

F21H 1/00	Incandescent mantles; Selection of imbibition liquids therefor
F21H 5/00	Solid incandescent bodies (incandescent mantles F21H 1/00)
F21H 3/00	Manufacturing incandescent mantles; Treatment prior to use, e.g. burning-off; Machines for manufacturing

Reasoning

General order: Products - manufacturing

F21K 2/00	Light sources using luminescence
F21K 5/00	Light sources using charges of combustible material, e.g. illuminating flash devices
F21K 7/00	Other light sources

Reasoning

General order: Special - residual

F21L 2/00	Systems of (electric) lighting devices
F21L 27/00	Devices or systems employing combinations of electric and non-electric light sources; Replacing electric by non-electric light sources or vice versa
F21L 4/00	Devices with self-contained electric batteries or cells
F21L 13/00	Devices with built-in electric generators (with solar cells F21L 4/00)
F21L 14/00	(electric) Devices without a self-contained power source, e.g. for mains connection
F21L 23/00	(non-electric) Miners' hand-lamps
F21L 21/00	(non-electric) Pocket-lamps, e.g. producing sparks
F21L 19/00	(non-electric) Lanterns, e.g. hurricane lamps, candle lamps
F21L 17/00	(non-electric) Torches; Flares

Reasoning

General order: Systems - combined/convertible - electric - non-electric

F21M is deleted

F21P is deleted

F21Q is deleted

F21S 19/00	Devices or systems employing combinations of electric and non-electric light sources; Replacing electric by non-electric light sources or vice versa
F21S 10/00	(electric) Devices or systems producing a varying lighting effect
F21S 4/00	(electric) Devices or systems using a string or strip of light sources
F21S 9/00	(electric) Devices with a built-in power supply; Systems employing such devices
F21S 6/00	(electric) Devices intended to be free-standing (F21S 9/00, F21S 10/00 take precedence)
F21S 8/00	(electric) Devices intended for fixed installation (F21S 9/00, F21S 10/00 take precedence; using a string or strip of light sources F21S 4/00)
F21S 2/00	Systems of (electric) lighting devices, not provided for in main groups F21S 4/00 to F21S 10/00, e.g. of modular construction
F21S 11/00	(non-electric) Devices or systems using daylight
F21S 13/00	(non-electric) Devices or systems employing a point-like light source; Devices or systems employing a light source of unspecified shape
F21S 15/00	(non-electric) Devices or systems employing light sources not covered by group F21S 11/00 or F21S 13/00

Reasoning

General order: Combined/convertible - electric - non-electric. 2/00 is difficult to place, it relates to systems, but is residual to groups covering both systems and individual devices.

ANNEX 1

F21V 33/00	Structural combinations of lighting devices with other articles, not otherwise provided for
F21V 29/00	Cooling or heating arrangements
F21V 31/00	Gas-tight or water-tight arrangements
F21V 25/00	Safety devices structurally associated with lighting devices (gas-tight or water-tight arrangements F21V 31/00).
F21V 15/00	Protecting lighting devices from damage (cooling or heating arrangements F21V 29/00; gas-tight or water-tight arrangements F21V 31/00)
F21V 13/00	Producing particular characteristics or distribution of the light emitted by means of a combination of elements specified in two or more of main groups F21V 1/00 to F21V 11/00 (by means of a combination of two or more elements covered by a single one of main groups F21V 1/00 to F21V 11/00, see the relevant group; changing the characteristics or distribution of the light emitted by adjustment of parts F21V 14/00)
F21V 8/00	Use of light guides, e.g. fibre optic devices, in lighting devices or systems
F21V 5/00	Refractors
F21V 7/00	Reflectors
F21V 1/00	Shades
F21V 9/00	Light filters (coloured shades F21V 1/00); Selection of luminescent materials for light screens
F21V 3/00	Globes; Bowls; Cover glasses (with refracting properties F21V 5/00; with reflecting properties F21V 7/00)
F21V 11/00	Screens not covered by groups F21V 1/00, F21V 3/00, F21V 7/00, F21V 9/00
F21V 14/00	Changing the characteristics or distribution of the light emitted by adjustment of parts (reflectors with provision for adjusting the curvature F21V 7/16; light filters with provision for variation of colour or intensity F21V 9/10; screens using iris-type diaphragms F21V 11/10; adjustable mountings for lighting devices F21V 21/14)
F21V 19/00	Fastening of light sources or lamp holders
F21V 27/00	Cable-stowing arrangements structurally associated with lighting devices, e.g. reels
F21V 23/00	Arrangement of electric circuit elements in or on lighting devices
F21V 17/00	Fastening of component parts of lighting devices, e.g. shades, globes, refractors, reflectors, filters, screens, grids or protective cages (of light sources or light holders F21V 19/00; gas-tight or water-tight arrangements F21V 31/00)
F21V 21/00	Supporting, suspending, or attaching arrangements for lighting devices (F21V 17/00, F21V 19/00 take precedence); Hand grips
F21V 36/00	Arrangements of mantles or other incandescent bodies on burners (attaching to lamp parts F21V 19/06)
F21V 35/00	Candle holders
F21V 37/00	Details of lighting devices employing combustion as light source, not otherwise provided for

Reasoning

General order: Combinations - additional/safety features - light-emission parts - non-light-emission parts - non-electric

F21W 101/00	Use or application of lighting devices on or in vehicles
F21W 111/00	Use or application of lighting devices or systems for signalling, marking or indicating, not provided for in group F21W 101:00
F21W 121/00	Use or application of lighting devices or systems for decorative purposes
F21W 131/00	Uses or applications of lighting devices or systems not provided for in groups F21W 101:00 to F21W 121:00

Reasoning

General order: Special - residual

F21Y 113/00	Combination of light sources
F21Y 105/00	Planar light sources
F21Y 103/00	Elongated light sources, e.g. fluorescent tubes
F21Y 101/00	Point-like light sources
F21Y 111/00	Light sources of form not covered by preceding groups

Reasoning

General order: Combinations - special - residual

F22B 35/00	Control systems for steam boilers
F22B 33/00	Steam-generation plants, e.g. comprising steam boilers of different types in mutual association
F22B 1/00	Methods of steam generation characterised by form of heating method
F22B 3/00	Other methods of steam generation
F22B 31/00	Modifications of boiler construction, or of tube systems, dependent on installation of combustion apparatus; Arrangements or dispositions of combustion apparatus (steam generation characterised by heating method F22B 1/00)
F22B 27/00	Instantaneous or flash steam boilers
F22B 29/00	Steam boilers of forced-flow type
F22B 25/00	Water-tube boilers built-up from sets of water tubes with internally-arranged flue tubes, or fire tubes, extending through the water tubes
F22B 11/00	Steam boilers of combined fire-tube type and water-tube type, i.e. steam boilers of fire-tube type having auxiliary water tubes
F22B 23/00	Water-tube boilers built-up from sets of spaced double-walled water tubes of return type in unilateral abutting connection with a boiler drum or with a header box, i.e. built-up from Field water tubes comprising an inner tube arranged within an outer unilaterally-closed tube
F22B 19/00	Water-tube boilers of combined horizontally-inclined type and vertical type, i.e. water-tube boilers of horizontally-inclined type having auxiliary water-tube sets in vertical or substantially-vertical arrangement
F22B 17/00	Water-tube boilers of horizontally-inclined type, i.e. the water-tube sets being inclined slightly with respect to the horizontal plane
F22B 21/00	Water-tube boilers of vertical or steeply-inclined type, i.e. the water-tube sets being arranged vertically or substantially vertically
F22B 15/00	Water-tube boilers of horizontal type, i.e. the water-tube sets being arranged horizontally
F22B 13/00	Steam boilers of fire-box type, i.e. the combustion of fuel being performed in a chamber or fire-box with subsequent flue(s) or fire tube(s), both chamber or fire-box and flues or fire tubes being built-in in the boiler body
F22B 7/00	Steam boilers of furnace-tube type, i.e. the combustion of fuel being performed inside one or more furnace tubes built-in in the boiler body
F22B 9/00	Steam boilers of fire-tube type, i.e. the flue gas from a combustion chamber outside the boiler body flowing through tubes built-in in the boiler body
F22B 5/00	Steam boilers of drum type, i.e. without internal furnace or fire tubes, the boiler body being contacted externally by flue gas
F22B 37/00	Component parts or details of steam boilers

Reasoning

General order: Control - plants - methods - boilers (special types - combined - water tubes - fire tubes - simple) - details

F22D 5/00	Controlling water feed or water level; Automatic water feeding or water-level regulators
F22D 1/00	Feed-water heaters, e.g. preheaters
F22D 3/00	Accumulators for preheated water
F22D 11/00	Feed-water supply not provided for in other main groups
F22D 7/00	Auxiliary devices or apparatus for promoting water circulation

Reasoning

General order: Control - heating - supply - auxiliary

F22G 5/00	Controlling superheat temperature
F22G 1/00	Steam superheating characterised by heating method
F22G 7/00	Steam superheaters characterised by location, arrangement, or disposition
F22G 3/00	Steam superheaters characterised by constructional features; Details or component parts thereof

Reasoning

General order: Control - methods - arrangement - details

F23B is under revision, but will be organised according to the standard sequence.

F23C is not yet approved by the Committee of Experts, so it seems better to wait with a proposal.

F23D 23/00	Assemblies of two or more burners (gas burners with provision for a retention flame F23D 14/26)
F23D 17/00	Burners for combustion conjointly or alternatively of gaseous or liquid or pulverulent fuel
F23D 1/00	Burners for combustion of pulverulent fuel
F23D 11/00	Burners using a direct spraying action of liquid droplets or vaporised liquid into the combustion space
F23D 9/00	Burners in which a stream of liquid fuel impinges intermittently on a hot surface
F23D 7/00	Burners in which drops of liquid fuel impinge on a surface
F23D 3/00	Burners using capillary action
F23D 5/00	Burners in which liquid fuel evaporates in the combustion space, with or without chemical conversion of evaporated fuel
F23D 14/00	Burners for combustion of a gas, e.g. of a gas stored under pressure as a liquid
F23D 21/00	Burners not otherwise provided for

Reasoning

General order: Combined - convertible - powder - liquid (5/00 last, since it really is residual to the others) - gas - residual

F23G is already approved.

F23H 11/00	Travelling grates
F23H 7/00	Inclined grates (inclined travelling grates F23H 11/12)
F23H 9/00	Revolving grates; Rocking grates (F23H 7/00 takes precedence)
F23H 5/00	Double grates
F23H 3/00	Grates with hollow bars
F23H 1/00	Grates with solid bars
F23H 13/00	Grates not covered by any preceding group
F23H 15/00	Cleaning arrangements for grates; Moving fuel along grate (rocking grates modified for moving fuel F23H 9/10; for travelling grates F23H 11/22)
F23H 17/00	Details of grates

Reasoning

General order: Grates (complex - simple - residual. 7/00 perhaps looks out of place, but the focus is on grates with movable elements) - cleaning - other details

F23J 9/00	Preventing premature solidification of molten combustion residues
F23J 7/00	Arrangement of devices for supplying chemicals to fire
F23J 15/00	Arrangements of devices for treating smoke or fumes
F23J 3/00	Removing solid residues from passages or chambers beyond the fire, e.g. from flues by soot blowers
F23J 1/00	Removing ash, clinker, or slag from combustion chambers
F23J 11/00	Devices for conducting smoke or fumes, e.g. flues
F23J 13/00	Fittings for chimneys or flues

Reasoning

General order: Special - chemical/treatment - ash - flue gases - details

F23K 1/00	Preparation of lump or pulverulent fuel in readiness for delivery to combustion apparatus
F23K 3/00	Feeding or distributing of lump or pulverulent fuel to combustion apparatus
F23K 5/00	Feeding or distributing other fuel to combustion apparatus

Reasoning

General order: Preparation - feeding - residual

F23L 7/00	Supplying non-combustible liquids or gases, other than air, to the fire, e.g. oxygen, steam
F23L 15/00	Heating of air supplied for combustion
F23L 5/00	Blast-producing apparatus before the fire
F23L 17/00	Inducing draught
F23L 3/00	Arrangements of valves or dampers before the fire
F23L 11/00	Arrangements of valves or dampers after the fire
F23L 13/00	Construction of valves or dampers for controlling air supply or draught
F23L 9/00	Passages or apertures for delivering secondary air for completing combustion of fuel
F23L 1/00	Passages or apertures for delivering primary air for combustion

Reasoning

General order: Special - heating - air/gas handling - valves (arrangement - construction) - air passages

F23M 11/00	Safety arrangements
F23M 7/00	Doors specially adapted for combustion chambers
F23M 5/00	Casings; Linings; Walls
F23M 9/00	Baffles or deflectors for air or combustion products; Flame shields
F23M 3/00	Firebridges (baffles not confining the fire F23M 9/06)
F23M 13/00	Other details

Reasoning

General order: Safety - complex - simple - residual

F23Q 23/00	Testing of ignition installations
F23Q 21/00	Devices for effecting ignition from a remote location
F23Q 5/00	Make-and-break ignition, i.e. with spark generated between electrodes by breaking contact therebetween
F23Q 3/00	Igniters using electrically-produced sparks
F23Q 7/00	Incandescent ignition; Igniters using electrically-produced heat, e.g. lighters for cigarettes; Electrically-heated glowing plugs
F23Q 9/00	Pilot flame igniters
F23Q 2/00	Lighters containing fuel, e.g. for cigarettes
F23Q 11/00	Arrangement of catalytic igniters
F23Q 1/00	Mechanical igniters (lighters containing fuel F23Q 2/00)
F23Q 13/00	Igniters not otherwise provided for
F23Q 25/00	Extinguishing devices, e.g. for blowing-out or snuffing candle flames

Reasoning

General order: Testing - special - electrical - non-electrical - residual - extinguishing

F23N 1/00	Regulating fuel supply
F23N 3/00	Regulating air supply or draught (conjointly with fuel supply F23N 1/00)
F23N 5/00	Systems for controlling combustion (F23N 1/00, F23N 3/00 take precedence)

Reasoning

General order: In order of precedence (which from a technical point of view is probably not really a good philosophy in this case...)

F23R 7/00	Intermittent or explosive combustion chambers
F23R 5/00	Continuous combustion chambers using solid or pulverulent fuel
F23R 3/00	Continuous combustion chambers using liquid or gaseous fuel

Reasoning

General order: Special - "normal"

ANNEX 1

F24B 9/00	Stoves, ranges, or flue-gas ducts, with additional provisions for heating water (F24B 1/182, F24B 1/183 take precedence)
F24B 7/00	Stoves, ranges, or flue-gas ducts, with additional provisions for convection heating (stoves with open fires characterised by use of heat exchange means F24B 1/185)
F24B 5/00	Combustion-air or flue-gas circulation in or around stoves or ranges (stoves with open fires with air-handling means F24B 1/185)
F24B 1/00	Stoves or ranges
F24B 3/00	Heaters not covered by group F24B 1/00, e.g. charcoal brazier
F24B 13/00	Details solely applicable to stoves or ranges burning solid fuels (component parts or accessories for stoves with open-fires F24B 1/191)
F24B 15/00	Implements for use in connection with stoves or ranges

Reasoning

This is a badly organised subclass. Main groups 1/00 and 5/00 to 9/00 are really impossible to order correctly: For closed stoves 5/00 - 9/00 must take precedence over 1/00, but for stoves with open fires 1/00 (1/18 and subgroup) takes precedence over 5/00 - 9/00. I chose to order after the group titles, rather than after the precedence references.

General order: Additional arrangements - stoves - residual - details - accessories

ANNEX 1

F24C 14/00	Stoves or ranges having self-cleaning provisions, e.g. continuous or catalytic cleaning, electrostatic cleaning
F24C 13/00	Stoves or ranges with additional provisions for heating water
F24C 11/00	Combinations of two or more stoves or ranges, e.g. each having a different kind of energy supply
F24C 1/00	Stoves or ranges in which the fuel or energy supply is not restricted to solid fuel or to a type covered by a single one of groups F24C 3/00 to F24C 9/00; Stoves or ranges in which the type of fuel or energy supply is not specified
F24C 7/00	Stoves or ranges heated by electric energy
F24C 5/00	Stoves or ranges for liquid fuels
F24C 3/00	Stoves or ranges for gaseous fuels
F24C 9/00	Stoves or ranges heated by a single type of energy supply not covered by groups F24C 3/00 to F24C 7/00 or subclass F24B
F24C 15/00	Details

Reasoning

General order: Special - additional arrangements - combined - convertible - by heating type - residual - details

ANNEX 1

F24D 10/00	District heating systems
F24D 11/00	Central heating systems using heat accumulated in storage masses (self-contained storage heating units F24D 15/02)
F24D 9/00	Central heating systems employing combinations of heat-transfer fluids covered by two or more of groups F24D 1/00 to F24D 7/00 (F24D 10/00, F24D 11/00 take precedence)
F24D 1/00	Steam central heating systems (F24D 10/00, F24D 11/00 take precedence)
F24D 3/00	Hot-water central heating systems (F24D 10/00, F24D 11/00 take precedence)
F24D 5/00	Hot-air central heating systems (F24D 10/00, F24D 11/00 take precedence); Exhaust-gas central heating systems
F24D 7/00	Central heating systems employing heat-transfer fluids not covered by groups F24D 1/00 to F24D 5/00, e.g. oil, salt, gas (F24D 10/00, F24D 11/00 take precedence)
F24D 12/00	Other central heating systems
F24D 13/00	Electric heating systems
F24D 15/00	Other domestic- or space-heating systems
F24D 17/00	Domestic hot-water supply systems (combined with domestic- or space-heating systems F24D 1/00 to F24D 15/00)
F24D 19/00	Details

Reasoning

General order: District/storage (have precedence) - combined - central systems by transfer fluid - residual central systems - electric - residual heating - hot water - details

F24F 11/00	Control or safety systems or apparatus
F24F 12/00	Use of energy recovery systems in air conditioning, ventilation or screening (with both heat and humidity transfer between supplied and exhausted air F24F 3/147)
F24F 3/00	Air-conditioning systems in which conditioned primary air is supplied from one or more central stations to distributing units in the rooms or spaces where it may receive secondary treatment; Apparatus specially designed for such systems (room units F24F 1/00)
F24F 1/00	Room units, e.g. receiving primary air from a central station
F24F 5/00	Air-conditioning systems or apparatus not covered by group F24F 1/00 or F24F 3/00
F24F 6/00	Air-humidification
F24F 9/00	Use of air currents for screening, e.g. air curtain
F24F 7/00	Ventilation
F24F 13/00	Details common to, or for air-conditioning, air-humidification, ventilation or use of air currents for screening

Reasoning

General order: Control - heat recovery - central - local - residual air conditioning - single air treatments - details

F24H 4/00	Fluid heaters using heat pumps
F24H 8/00	Fluid heaters having heat-generating means specially adapted for extracting latent heat from flue gases by means of condensation
F24H 7/00	Storage heaters, i.e. heaters in which the energy is stored as heat in masses for subsequent release
F24H 6/00	Combined water and air heaters (F24H 8/00 takes precedence)
F24H 1/00	Water heaters having heat generating means, e.g. boiler, flow-heater, water-storage heater (F24H 7/00, F24H 8/00 take precedence; details F24H 9/00)
F24H 3/00	Air heaters having heat generating means (F24H 7/00, F24H 8/00 take precedence; details F24H 9/00)
F24H 9/00	Details

Reasoning

General order: Special - combined - water - air - details

F24J 1/00	Apparatus or devices using heat produced by exothermal chemical reactions other than by combustion
F24J 2/00	Use of solar heat, e.g. solar heat collectors
F24J 3/00	Other production or use of heat, not derived from combustion (use of solar heat F24J 2/00)

Reasoning

General order: Chemical - solar - residual

ANNEX 1

F25B 27/00	Machines, plant, or systems, using particular sources of energy (F25B 30/06 takes precedence)
F25B 29/00	Combined heating and refrigeration systems, e.g. operating alternately or simultaneously
F25B 30/00	Heat pumps
F25B 25/00	Machines, plant, or systems, using a combination of modes of operation covered by two or more of the groups F25B 1/00 to F25B 23/00 (combinations of two or more modes of operation covered by a single main group, see the relevant group)
F25B 21/00	Machines, plant, or systems, using electric or magnetic effects
F25B 9/00	Compression machines, plant, or systems, in which the refrigerant is air or other gas of low boiling point
F25B 3/00	Self-contained rotary compression machines, i.e. with compressor, condenser, and evaporator rotating as a single unit
F25B 11/00	Compression machines, plant, or systems, using turbines, e.g. gas turbines
F25B 7/00	Compression machines, plant, or systems, with cascade operation, i.e. with two or more circuits, the heat from the condenser of one circuit being absorbed by the evaporator of the next circuit (F25B 9/00 takes precedence)
F25B 5/00	Compression machines, plant, or systems, with several evaporator circuits, e.g. for varying refrigerating capacity (with cascade operation F25B 7/00)
F25B 6/00	Compression machines, plant, or systems, with several condenser circuits
F25B 13/00	Compression machines, plant, or systems, with reversible cycle (defrosting cycles F25B 47/02)
F25B 1/00	Compression machines, plant or systems with non-reversible cycle (F25B 3/00, F25B 5/00, F25B 6/00, F25B 7/00, F25B 9/00 take precedence)
F25B 17/00	Sorption machines, plant, or systems, operating intermittently, e.g. absorption or adsorption type
F25B 15/00	Sorption machines, plant, or systems, operating continuously, e.g. absorption type
F25B 19/00	Machines, plant, or systems, using evaporation of a refrigerant but without recovery of the vapour
F25B 23/00	Machines, plant, or systems, with a single mode of operation not covered by groups F25B 1/00 to F25B 21/00, e.g. using selective radiation effect
F25B 49/00	Arrangement or mounting of control or safety devices
F25B 43/00	Arrangements for separating or purifying gases or liquids (in analysers or rectifiers F25B 33/00); Arrangements for vaporising the residuum of liquid refrigerant, e.g. by heat (F25B 40/00 takes precedence) [5]
F25B 47/00	Arrangements for preventing or removing deposits or corrosion, not provided for in another subclass
F25B 40/00	Subcoolers, desuperheaters or superheaters [5]
F25B 31/00	Compressor arrangements
F25B 41/00	Fluid-circulation arrangements, e.g. for transferring liquid from evaporator to boiler

F25B 35/00	Boiler-absorbers, i.e. boilers usable for absorption or adsorption
F25B 33/00	Boilers; Analysers; Rectifiers (boiler-absorbers F25B 35/00)
F25B 37/00	Absorbers; Adsorbers (boiler-absorbers F25B 35/00)
F25B 39/00	Evaporators; Condensers
F25B 45/00	Arrangements for charging or discharging refrigerant

Reasoning

General order: Specialised - combined - by types - residual - subsystems and details

F25C 3/00	Production of ice or snow for the purposes specified in the subgroups of this group
F25C 1/00	Production of ice (F25C 3/00 takes precedence)
F25C 5/00	Working or distributing ice

Reasoning

General order: Production in order of precedence - working

F25D 16/00	Devices using a combination of a cooling mode associated with refrigerating machinery with a cooling mode not associated with refrigerating machinery
F25D 11/00	Self-contained movable (refrigeration) devices, e.g. domestic refrigerator
F25D 13/00	Stationary (refrigeration) devices, e.g. cold rooms
F25D 15/00	(Refrigeration) Devices not covered by group F25D 11/00 or F25D 13/00, e.g. non-self-contained movable devices
F25D 9/00	(Non-refrigeration) Devices not covered by groups F25D 1/00 to F25D 7/00; Combinations of devices covered by two or more of the groups F25D 1/00 to F25D 7/00
F25D 5/00	(Non-refrigeration) Devices using endothermic chemical reactions, e.g. using frigorific mixtures
F25D 7/00	(Non-refrigeration) Devices using evaporation effects without recovery of the vapour
F25D 1/00	(Non-refrigeration) Devices using naturally-cold air or water
F25D 3/00	(Non-refrigeration) Devices using other cold materials; Devices using cold-storage bodies
F25D 31/00	Other cooling or freezing apparatus
F25D 29/00	Arrangement or mounting of control or safety devices
F25D 19/00	Arrangement or mounting of refrigeration units with respect to devices
F25D 17/00	Arrangements for circulating cooling fluids; Arrangements for circulating gas, e.g. air, within refrigerated spaces
F25D 21/00	Defrosting; Preventing frosting; Removing condensed or defrost water
F25D 25/00	Charging, supporting, or discharging the articles to be cooled
F25D 27/00	Lighting arrangements
F25D 23/00	General constructional features (F25D 21/00 takes precedence)

Reasoning

General order: Combined - refrigeration devices (mobile - stationary - residual), non-refrigeration devices (combined/residual, basic, residual) - residual devices - details.

Note that 9/00 covers both combinations and residual matter. I chose to put it above its related groups, for the combination aspect. Placement of the group at the top would not lead to misclassifications by someone who would (against the rules) apply "first place rule" and "inclusiveness" in the reordered scheme. If the group had been placed last, "first place rule" and "inclusiveness" would have lead to misclassifications.

F25J 3/00	Processes or apparatus for separating the constituents of gaseous mixtures involving the use of liquefaction or solidification
F25J 1/00	Processes or apparatus for liquefying or solidifying gases or gaseous mixtures
F25J 5/00	Arrangements of cold-exchangers or cold-accumulators in separation or liquefaction plants

Reasoning

General order: Special application - basic - details

F26B 20/00	Combinations of machines or apparatus covered by two or more of groups F26B 9/00 to F26B 19/00
F26B 13/00	Machines or apparatus for drying fabrics, fibres, yarns, or other materials in long lengths, with progressive movement
F26B 17/00	Machines or apparatus for drying materials in loose, plastic, or fluidised form, e.g. granules, staple fibres, with progressive movement (F26B 13/00 takes precedence)
F26B 15/00	Machines or apparatus for drying objects with progressive movement; Machines or apparatus with progressive movement for drying batches of material in compact form (F26B 13/00, F26B 17/00 take precedence)
F26B 11/00	Machines or apparatus for drying solid materials or objects with movement which is non-progressive
F26B 9/00	Machines or apparatus for drying solid materials or objects at rest or with only local agitation; Domestic airing cupboards
F26B 19/00	Machines or apparatus for drying solid materials or objects not covered by groups F26B 9/00 to F26B 17/00
F26B 7/00	Drying solid materials or objects by processes using a combination of processes not covered by a single one of groups F26B 3/00 or F26B 5/00
F26B 3/00	Drying solid materials or objects by processes involving the application of heat (in specific machines or apparatus F26B 9/00 to F26B 19/00)
F26B 5/00	Drying solid materials or objects by processes not involving the application of heat
F26B 1/00	Preliminary treatment of solid materials or objects to facilitate drying
F26B 21/00	Arrangements for supplying or controlling air or gases for drying solid materials or objects
F26B 23/00	Heating arrangements (using heated air or gases F26B 21/00)
F26B 25/00	Details of general application not covered by group F26B 21/00 or F26B 23/00

Reasoning

General order: Combinations - apparatus (specialised - complex -simple) - processes (after apparatus because processes are residual to apparatus)- pre-treatment - details

ANNEX 1

F27B 19/00	Combinations of furnaces of kinds not covered by a single preceding main group
F27B 7/00	Rotary-drum furnaces, i.e. horizontal or slightly inclined
F27B 9/00	Furnaces through which the charge is moved mechanically, e.g. of tunnel type (F27B 7/14 takes precedence); Similar furnaces in which the charge moves by gravity
F27B 15/00	Fluidised-bed furnaces; Other furnaces using or treating finely-divided materials in dispersion
F27B 1/00	Shaft or like vertical or substantially vertical furnaces
F27B 13/00	Furnaces with both stationary charge and progression of heating, e.g. of ring type, of type in which segmental kiln moves over stationary charge
F27B 5/00	Muffle furnaces; Retort furnaces; Other furnaces in which the charge is held completely isolated (F27B 9/00 takes precedence)
F27B 11/00	Bell-type furnaces
F27B 14/00	Crucible or pot furnaces; Tank furnaces
F27B 3/00	Hearth-type furnaces, e.g. of reverberatory type (F27B 9/00 to F27B 15/00, F27B 21/00 take precedence); Electric arc furnaces
F27B 17/00	Furnaces of a kind not covered by any preceding group (structural combinations of furnaces F27B 19/02)
F27B 21/00	Open or uncovered sintering apparatus; Other heat-treatment apparatus of like construction

Reasoning

General order: Combinations - furnaces (complex to simple) - residual

F27D 19/00	Arrangement of controlling devices
F27D 21/00	Arrangement of monitoring devices; Arrangements of safety devices
F27D 17/00	Arrangement for using waste heat; Arrangement for using, or disposing of, waste gases
F27D 7/00	Forming, maintaining, or circulating atmospheres in heating chambers
F27D 3/00	Charging; Discharging; Manipulation of charge
F27D 5/00	Supports, screens, or the like for the charge within the furnace (travelling or movable supports F27D 3/12)
F27D 1/00	Casings; Linings; Walls; Roofs
F27D 11/00	Arrangement of elements for electric heating in or on furnaces
F27D 13/00	Apparatus for preheating charges; Arrangements for preheating charges
F27D 9/00	Cooling of furnaces or of charges therein (F27D 1/00, F27D 3/00 take precedence)
F27D 15/00	Handling or treating discharged material; Supports or receiving chambers therefor
F27D 23/00	Details or accessories not covered by any preceding group

Reasoning

General order: Control etc. - specialised - other mainly in order of precedence - residual

F27D 19/00	Arrangement of controlling devices
F27D 21/00	Arrangement of monitoring devices; Arrangements of safety devices
F27D 17/00	Arrangement for using waste heat; Arrangement for using, or disposing of, waste gases
F27D 7/00	Forming, maintaining, or circulating atmospheres in heating chambers
F27D 3/00	Charging; Discharging; Manipulation of charge
F27D 5/00	Supports, screens, or the like for the charge within the furnace (travelling or movable supports F27D 3/12)
F27D 1/00	Casings; Linings; Walls; Roofs
F27D 11/00	Arrangement of elements for electric heating in or on furnaces
F27D 13/00	Apparatus for preheating charges; Arrangements for preheating charges
F27D 9/00	Cooling of furnaces or of charges therein (F27D 1/00, F27D 3/00 take precedence)
F27D 15/00	Handling or treating discharged material; Supports or receiving chambers therefor
F27D 23/00	Details or accessories not covered by any preceding group

Reasoning

General order: Control etc. - specialised - other mainly in order of precedence - residual

F28C 1/00	Direct-contact trickle coolers, e.g. cooling towers
F28C 3/00	Other direct-contact heat-exchange apparatus

Reasoning

General order: Basic - residual

F28D 19/00	Regenerative heat-exchange apparatus in which the intermediate heat-transfer medium or body is moved successively into contact with each heat-exchange medium
F28D 17/00	Regenerative heat-exchange apparatus in which a stationary intermediate heat-transfer medium or body is contacted successively by each heat-exchange medium, e.g. using granular particles
F28D 20/00	Heat storage plants or apparatus in general; Regenerative heat-exchange apparatus not covered by groups F28D 17/00 or F28D 19/00
F28D 15/00	Heat-exchange apparatus with the intermediate heat-transfer medium in closed tubes passing into or through the conduit walls
F28D 13/00	Heat-exchange apparatus using a fluidised bed
F28D 11/00	Heat-exchange apparatus employing moving conduits
F28D 9/00	Heat-exchange apparatus having stationary plate-like or laminated conduit assemblies for both heat-exchange media, the media being in contact with different sides of a conduit wall
F28D 7/00	Heat-exchange apparatus having stationary tubular conduit assemblies for both heat-exchange media, the media being in contact with different sides of a conduit wall
F28D 5/00	Heat-exchange apparatus having stationary conduit assemblies for one heat-exchange medium only, the media being in contact with different sides of the conduit wall, using the cooling effect of natural or forced evaporation
F28D 3/00	Heat-exchange apparatus having stationary conduit assemblies for one heat-exchange medium only, the media being in contact with different sides of the conduit wall, in which the other heat-exchange medium flows in a continuous film, or trickles freely, over the conduits (F28D 5/00 takes precedence)
F28D 1/00	Heat-exchange apparatus having stationary conduit assemblies for one heat-exchange medium only, the media being in contact with different sides of the conduit wall, in which the other heat-exchange medium is a large body of fluid, e.g. domestic or motor car radiators (F28D 5/00 takes precedence)
F28D 21/00	Heat-exchange apparatus not covered by any of the groups F28D 1/00 to F28D 20/00

Reasoning

General order: Intermediate media - moving media or conduits - conduits for two media - conduits for one medium - residual

ANNEX 1

F28F 27/00	Control arrangements specially adapted for heat-exchange or heat-transfer apparatus
F28F 19/00	Preventing the formation of deposits or corrosion, e.g. by using filters
F28F 17/00	Removing ice or water from heat-exchange apparatus
F28F 11/00	Arrangements for sealing leaky tubes or conduits
F28F 9/00	Casings; Header boxes; Auxiliary supports for elements; Auxiliary members within casings
F28F 5/00	Elements specially adapted for movement (arrangements for moving the elements, see the appropriate subclass for the apparatus concerned)
F28F 3/00	Plate-like or laminated elements; Assemblies of plate-like or laminated elements (specially adapted for movement F28F 5/00)
F28F 1/00	Tubular elements; Assemblies of tubular elements (specially adapted for movement F28F 5/00)
F28F 7/00	Elements not covered by group F28F 1/00, F28F 3/00, or F28F 5/00
F28F 13/00	Arrangements for modifying heat transfer, e.g. increasing, decreasing (F28F 1/00 to F28F 11/00 take precedence)
F28F 25/00	Component parts of trickle coolers (arrangements for increasing heat transfer F28F 13/00; controlling arrangements F28F 27/00)
F28F 23/00	Features relating to the use of intermediate heat-exchange materials, e.g. selection of compositions
F28F 21/00	Constructions of heat-exchange apparatus characterised by the selection of particular materials

Reasoning

General order: Control - additional - elements - residual elements - details - materials

ANNEX 1

F28G 13/00	Appliances or processes not covered by groups F28G 1/00 to F28G 11/00; Combinations of appliances or processes covered by groups F28G 1/00 to F28G 11/00
F28G 11/00	Cleaning by combustion processes, e.g. using squibs, using travelling burners
F28G 9/00	Cleaning by flushing or washing, e.g. with chemical solvents (appliances using jets of fluid for removing debris F28G 1/16, F28G 3/16)
F28G 7/00	Cleaning by vibration
F28G 5/00	Cleaning by distortion (by vibration F28G 7/00)
F28G 3/00	Rotary appliances
F28G 1/00	Non-rotary, e.g. reciprocated, appliances (F28G 3/00 takes precedence)
F28G 15/00	Details

Reasoning

General order: Combination/residual - processes - apparatus - details

Note that 13/00 covers both combinations and residual matter. I chose to put it above its related groups, for the combination aspect. Placement of the group at the top would not lead to misclassifications by someone who would (against the rules) apply "first place rule" and "inclusiveness" in the reordered scheme. If the group had been placed last, "first place rule" and "inclusiveness" would have lead to misclassifications.