B63C  LAUNCHING, HAULING-OUT, OR DRY-DOCKING OF VESSELS; LIFE-SAVING IN WATER; EQUIPMENT FOR DWELLING OR WORKING UNDER WATER; MEANS FOR SALVAGING OR SEARCHING FOR UNDERWATER OBJECTS (floating nets, floating slipways, or the like for recovering aircraft from the water B63B 35/52)

NOTE
In this subclass, the indexing codes B63B 2201/00 - B63B 2241/00 are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means.

WARNINGS
1. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
2. Groups B63C 1/00 - B63C 15/00 are incomplete pending reclassification of documents from groups B63B 2701/00 - B63B 2770/00.

All groups listed in this Warning should be considered in order to perform a complete search.
B63C

7/14 . using freezing for closing holes or for strengthening the vessel or the like
7/16 . Apparatus engaging vessels or objects
    \textit{\{B63C 7/00\} takes precedence\}}
7/18 . using nets
7/20 . using grabs \textit{(cable grappnels with grabs B63C 11/50)}
7/22 . using electromagnets or suction devices
7/24 . Apparatus for passing chains or the like under vessels or objects
7/26 . Means for indicating the location of underwater objects, e.g. sunken vessels \textit{(means for searching for underwater objects B63C 11/48; buoys in general B63B 22/00)}
7/28 . Refloating stranded vessels
7/30 . Floatable safes \textit{(safes in general E05G)}

9/00 Life-saving in water \textit{(life-saving in general A62B; arrangement or adaptation of signalling or lighting devices for ships, other waterborne vessels or for equipment for shipping B63B 45/00; rescue equipment specially adapted for submarine personnel B63G 8/40)}

9/0005 . \{by means of alarm devices for persons falling into the water, e.g. by signalling, by controlling the propulsion or manoeuvring means of the boat (alarms responsive to presence of persons in a body of water in general G08B 21/08)\}
9/0011 . \{enabling persons in the water to control the propulsion or manoeuvring means of the boat\}
2009/0017 . \{characterised by making use of satellite radio beacon positioning systems, e.g. the Global Positioning System (GPS)\}
2009/0023 . \{Particular features common to inflatable life-saving equipment\}
2009/0029 . \{Inflation devices comprising automatic activation means, e.g. for puncturing gas-generating cartridges\}
2009/0035 . \{activated by deployment of inflatable life-saving equipment\}
2009/0041 . \{activated by presence of water\}
2009/0047 . \{using electric means\}
2009/0052 . \{by water pressure\}
2009/0058 . \{using means soluble in water, or weakening when wet\}
2009/0064 . \{Inflation devices using pyrotechnic means and comprising automatic activation\}
2009/007 . \{Inflation devices comprising manual activation means, e.g. for puncturing gas-generating cartridges\}
2009/0076 . \{Inflation devices making use of the Venturi-effect for enhancing the gas flow from the pressurised gas source by entraining ambient air, e.g. using eductor-jet pumps for decreasing inflation time\}
2009/0082 . \{Bladder restrictors, i.e. mechanical means, other than peripheral or circumferential means, for restricting expansion in inflated state of inflatable bladders or chambers, e.g. welded spots or lines, or internal braces for limiting thickness\}
2009/0088 . \{characterised by making use of shark deterrents, e.g. electric, acoustic, mechanical or chemical means for deterring sharks\}
2009/0094 . \{Equipment comprising means for providing users with victuals or drinks\}

9/01 . Air-sea rescue devices, i.e. equipment carried by, and capable of being dropped from, an aircraft \{inflatable vessels B63B 7/00; inflatable buoys B63B 22/22\}
9/02 . Lifeboats, life-rafts or the like, specially adapted for life-saving \{floatable furniture B63C 9/30; boats in general B63B; inflatable vessels B63B 7/00; equipment for handling lifeboats or the like B63B 23/00; rafts B63B 35/58\}
2009/0023 . \{self-righting, i.e. returning into an upright position after upside down deployment, or capsizing\}
2009/0026 . \{Covered lifeboats, or life-rafts comprising self-llevelling compartments for occupants\}
9/03 . \{enclosed\}
2009/0035 . \{Enclosed lifeboats, or the like\}
9/04 . \{Life-rafts\}
2009/0042 . \{inflatable\}
2009/0044 . \{covered\}
2009/0046 . \{reversible, i.e. deployable in upright or upside down positions\}
2009/0048 . \{Reversible open life-rafts\}
9/05 . \{Shark screens, e.g. buoyant means combined with means to surround or otherwise enclose the user \{B63C 9/06 takes precedence\}\}
9/06 . \{Floatable closed containers with accommodation for one or more persons inside \{B63C 9/01 takes precedence\}\}
9/065 . \{for one person\}
9/08 . \{Life-buoys, e.g. rings; Life-belts, jackets, suits, or the like \{non-sinkable swimsuits, drawers or trunks A41D 7/00\} \; equipment for swimming A63B, e.g. swimming aids \{other than life-buoys or life-belts\} A63B 31/00, \{teaching frames for swimming, swimming boards A63B 69/14\}\}
9/081 . \{having compartments comprising elements which are filled with gas by deployment, e.g. sponge-like elements\}
9/082 . \{Annular or U-shaped life-buoys intended to be thrown to persons\}
2009/0084 . \{for animals\}
2009/0085 . \{comprising ballast means, e.g. solid ballast\}
9/087 . \{Body suits, i.e. substantially covering the user's body \{Immersion suits, i.e. substantially completely covering the user\ \{Professional, industrial, or sporting protective garments A41D 13/00 for aquatic activities, e.g., with buoyancy aids A41D 13/012\} \; diving suits B63C 11/04, B63C 11/10 \{B63C 9/081 takes precedence\}\}\}
9/093 . \{using solid buoyant material\}
9/05 . \{having gas-filled compartments \{connection of valves to inflatable elastic bodies B60C 29/00\}\}
9/055 . \{inflatable\}
9/11 . \{covering the torso, e.g. harnesses \{B63C 9/081 takes precedence\}\}
9/115 . \{using solid buoyant material\}
9/125 . \{having gas-filled compartments \{connection of valves to inflatable elastic bodies B60C 29/00\}\}
9/1255 . \{inflatable\}
9/13 . \{attachable to body member, e.g. arm, neck, head or wrist \{B63C 9/081 takes precedence\}\}
2009/131 . \{specially adapted for being attachable to a single arm or wrist\}
Equipment for diving or working underwater,
Means for searching for underwater objects

(specialty adapted for being attachable to the user's head or neck, e.g. like a cap or collar)

9/15 . . . having gas-filled compartments (connection of valves to inflatable elastic bodies B60C 29/00)

9/18 . . . Inflatable equipment characterised by the gas-generating (or inflation) device

9/19 . . . Arrangements for puncturing gas-generating cartridges

9/20 . . . characterised by signalling means, e.g. lights (arrangement or adaptation of signalling or lighting devices for ships or other waterborne vessels B63B 45/00)

9/21 . (Boats, rafts, buoys or the like, characterised by signalling means, e.g. lights, reflectors (B63C 9/08 takes precedence))

WARNING
Group B63C 9/21 is no longer used for classification. Documents are in the process of being reorganised to B63B 45/00 and subgroups, and to B63C 9/20

9/22 . . . Devices for holding or launching life-buoys, inflatable life-rafts, or other floatable life-saving equipment (equipment for handling life-boats or the like B63B 23/00)

9/23 . . . Containers for inflatable life-saving equipment

9/24 . . . (Arrangements of inflating valves or of controls thereof (connecting inflating valves to elastic bodies B60C 29/00))

9/26 . Cast or life lines; Attachments thereto; Containers therewith; [Rescue nets or the like] (adaptations of aerial cableways to shipboard use B63B 27/18; guns for line throwing F41F; line-carrying missiles F42B 12/68)

Equipment for dwelling or working underwater;
Means for searching for underwater objects

(specialty adapted for being attachable to the user's head or neck, e.g. like a cap or collar)

11/00

(2011/026) . . . (Diving harnesses, or the like, e.g. for carrying breathing air tanks)

11/027 . . . (Shells for diving equipment, i.e. substantially rigid housings or covers, e.g. streamlined shells (diving computer with shells B63C 2011/021; shells for containers for goods or personal belongings of the diver B63C 11/02))

11/028 . . . (Devices for underwater towing of divers or divers' sleds)

11/04 . . . Resilient suits

11/043 . . . (Dry suits; Equipment therefor)

11/046 . . . (Wet suits, or diving vests; Equipment therefor)

11/06 . . . with rigid helmet

11/08 . . . Control of air pressure within suit, e.g. for controlling buoyancy (Buoyancy compensator vests, or the like)

11/085 . . . (Buoyancy compensator vests)

11/10 . . . Rigid suits

11/12 . . . Diving masks

11/121 . . . (comprising integrated optical signalling means or displays for data or images)

11/123 . . . (comprising integrated headlights, spotlights, or the like)

11/125 . . . (comprising nose-clips, i.e. pinching devices for closing the user's nose, other than rubber blisters integral with flexible mask elements)

11/126 . . . (Diving masks comprising periscopes, mirrors, or the like; Periscopes, mirrors, or the like specially adapted for use with diving masks)

11/128 . . . (Straps, or the like for fastening diving masks; Accessories therefor, e.g. buckles)

11/14 . . . with forced air supply

11/16 . . . with air supply by suction from diver, e.g. snorkels

11/165 . . . (comprising two or more air ducts leading from the mouthpiece to the air inlet or outlet opening)

11/18 . . . Air supply (for diving masks B63C 11/14, B63C 11/16; respiratory apparatus in general A62B)

11/182 . . . (comprising devices for discharge of exhalation air into ambient water, e.g. ducts to back of head)

11/184 . . . (Artificial gills)

11/186 . . . (Mouthpieces)

11/188 . . . (comprising warning means for breathing gas run-out)

11/20 . . . from water surface

11/202 . . . (with forced air supply (B63C 11/14 takes precedence))

11/205 . . . (with air supply by suction from diver, e.g. snorkels (B63C 11/16 takes precedence))

11/207 . . . (with hoses connected to a float)

11/22 . . . carried by diver

11/2209 . . . (First-stage regulators (B63C 11/2245 takes precedence))

11/2218 . . . (comprising hollow piston valves, i.e. regulator valves with hollow stems connecting valve seat end in high pressure chamber to low pressure chamber at piston end)

11/2227 . . . (Second-stage regulators (B63C 11/2245 takes precedence))
Functionally interdependent first/second-stage regulators (B63C 11/2245 takes precedence)

With provisions for connection to a buoyancy compensator

comprising means for prevention of ice formation, e.g. means for heating breathing gas in first or second stage regulators

using breathing gas stored in its liquid phase, e.g. cryogenic breathing gas

Pumps specially adapted for filling breathing air into tanks for compressed air, e.g. manual pumps

Devices for securing breathing gas tanks to diving harnesses, or back pieces of diving jackets, e.g. straps; Tensioning devices therefor

comprising fluid actuated tensioners, e.g. pneumatic jack tensioners for straps

Communication means, e.g. means for signalling the presence of divers (electric communication in general H04)

Heating, e.g. of divers' suits, of breathing air

Ballast (weights worn on user's body for exercising A63B 21/065)

integral with, or directly attached to buoyancy compensator vests or to spiders of diver's backpacks combined therewith

Attachment means for quick release of ballast

Decompression arrangements; Exercise equipment

chambers used for it

Diving chambers (or underwater vessels, e.g. unmanned,) with mechanical link, e.g. cable, to a base (manipulators B25J; externally attached cofferdams and the like B63B 17/0018: diving chambers without mechanical link to a base B63G 8/00; caissons adapted to laying foundations E02D 23/00 - E02D 27/00)

of closed type

with entrance above water surface

adapted to specific work

with independent propulsion or direction control (underwater vessels adapted for special purposes B63G 8/001)

of open type, e.g. diving-bells

Divers' sleds or like craft, i.e. craft on which man in diving-suit rides (devices fixed to the body of a swimmer, e.g. diver, or held in his hands, and propelling the swimmer by muscle power or by a motor A63B 35/00)

Means for searching for underwater objects (means for indicating the location of sunken objects B63C 7/26; locating by use of the reflection or reradiation of radio or other waves G01S (; mountings of acoustic transducers in underwater equipment G10K 11/006))

Floating structures with underwater viewing devices, e.g. with windows (; Arrangements on floating structures of underwater viewing devices, e.g. on boats (arrangement of visual equipment on submarines B63G 8/38))

using grapnels

Tools specially adapted for working underwater, not otherwise provided for

Equipment forming part of or attachable to vessels facilitating transport over land (amphibious craft, land vehicles convertible for use on water B60F; land vehicles for carrying boats B60P; hand carts for transporting boats B62B; harnesses attachable to vessels for personal carrying A45F)

Storing of vessels on land otherwise than by dry-docking