# CPC COOPERATIVE PATENT CLASSIFICATION

## B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

#### **TRANSPORTING**

## B63 SHIPS OR OTHER WATERBORNE VESSELS; RELATED EQUIPMENT

# **MARINE PROPULSION OR STEERING** (propulsion of air-cushion vehicles <u>B60V 1/14</u>; specially adapted for submarines, other than nuclear propulsion, <u>B63G</u>; specially adapted for torpedoes <u>F42B 19/00</u>)

#### NOTE

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

### WARNING

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

1/00	Propulsive elements directly acting on water (jet	2001/185	• • • {Surfacing propellers, i.e. propellers
	propulsion <u>B63H 11/00</u> )		specially adapted for operation at the
2001/005	• {using Magnus effect}		water surface, with blades incompletely
1/02	<ul> <li>of rotary type</li> </ul>		submerged, or piercing the water
1/04	• • with rotation axis substantially at right angles to		surface from above in the course of each
	propulsive direction		revolution}
2001/045	• • • {with partially immersed nutating or ondulated		Hubs; Blade connections
	disks, e.g. wobble plates}	1/22	the blades being foldable
1/06	with adjustable vanes or blades	1/24	• • • automatically foldable or unfoldable
1/08	with cyclic adjustment	1/26	Blades
1/10	• • • • of Voith Schneider type, i.e. with blades extending axially from a disc-shaped rotary body	1/265	• • • {each blade being constituted by a surface enclosing an empty space, e.g. forming a closed loop}
2001/105	• • • • { with non-mechanical control of individual blades, e.g. electric or	1/28	Other means for improving propeller efficiency
	hydraulic control}	2001/283	• • • {Propeller hub caps with fins having a
1/12	• • with rotation axis substantially in propulsive direction		pitch different from pitch of propeller blades, or a helix hand opposed to the
2001/122	• • • {Single or multiple threaded helicoidal screws,	2001/206	propellers' helix hand}
	or the like, comprising foils extending over a substantial angle; Archimedean screws}		• • • {Injection of gas into fluid flow to propellers, or around propeller blades}
2001/125	• • • • { with helicoidal foils projecting from outside		of non-rotary type
	surfaces of floating rotatable bodies, e.g. rotatable, cylindrical bodies}	1/32	Flaps, pistons, or the like, reciprocating in propulsive direction
2001/127	{ with helicoidal foils projecting from inside		of endless-track type
	surfaces of rotating shrouds; Archimedean screws}	2001/342	• {with tracks substantially parallel to propulsive direction}
1/14	• • • Propellers (pitch changing <u>B63H 3/00</u> )	2001/344	• • {having paddles mounted in fixed relation to
2001/145	• • • {comprising blades of two or more different		tracks, or to track members}
	types, e.g. different lengths}	2001/346	• • {having paddles movably mounted on the
1/15	• • • having vibration damping means		track or on track members, e.g. articulated,
1/16	• • • having a shrouding ring attached to blades		or with means for cyclically controlling the
2001/165	• • • • {Hubless propellers, e.g. peripherally		paddles' angular position or orientation}
	driven shrouds with blades projecting from the shrouds' inside surfaces}		• {with tracks oriented transverse to propulsive direction}
1/18	with means for diminishing cavitation, e.g.		swinging sideways, e.g. fishtail type
	supercavitation	1/37	Moving-wave propellers, i.e. wherein the propelling means comprise a flexible undulating

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structure

1/38	<ul> <li>characterised solely by flotation properties, e.g. drums</li> </ul>	5/125	• movably mounted with respect to hull, e.g. adjustable in direction {, e.g. podded
3/00	<b>Propeller-blade pitch changing</b> {(aircraft propellers B64C 11/30; rotors of turbines F01D 7/00; axial wind motors F03D 7/022; axial-flow pumps F04D 29/00)}		azimuthing thrusters}({outboard units or Z-drives <u>B63H 20/00</u> ; } movably mounted for steering purposes only, {rudders carrying propellers} <u>B63H 25/42</u> )
3/002	• {with individually adjustable blades}	5/1252	{the ability to move being conferred by gearing
2003/004	• {comprising means for locking blades in position}		in transmission between prime mover and
2003/006	• {Detecting or transmitting propeller-blade pitch angle}		propeller and the propulsion unit being other than in a "Z" configuration}
3/008	• {characterised by self-adjusting pitch, e.g. by means of springs, centrifugal forces, hydrodynamic forces}	2005/1254	thruster units arranged inboard for rotation
3/02	<ul> <li>actuated by control element coaxial with propeller shaft, e.g. the control element being rotary {(B63H 3/002 takes precedence, fluid actuated</li> </ul>	2005/1256	about vertical axis}  { with mechanical power transmission to
	B63H 3/081)}	2005/1258	propellers}  {with electric power transmission to
3/04	. the control element being reciprocatable	2003/1238	propellers, i.e. with integrated electric
3/06	<ul> <li>characterised by use of non-mechanical actuating</li> </ul>		propeller motors}
3/00	means, e.g. electrical ( <u>B63H 3/002</u> takes	5/14	• characterised by being mounted in non-rotating
	precedence)	3/14	ducts or rings, e.g. adjustable for steering purpose
3/08	fluid		(shrouding ring attached to blades <u>B63H 1/16</u> ; jet
3/081	• • • {actuated by control element coaxial with the		propulsion <u>B63H 11/00</u> )
2,000	propeller shaft}	5/15	Nozzles, e.g. Kort-type
3/082	{the control element being axially	5/16	characterised by being mounted in recesses; with
	reciprocatable }		stationary water-guiding elements; Means to prevent fouling of the propeller, e.g. guards, cages
2003/084 2003/085	(the control element begins means for		or screens
2003/083	• • • • {the control element having means for preventing rotation together with the	5/165	• • {Propeller guards, line cutters or other means
	propeller}	3/103	for protecting propellers or rudders}
2003/087	• • {using gaseous fluids, e.g. steam or air}	5/18	• of emergency propellers, e.g. arranged at the side
2003/088	{characterised by supply of fluid actuating	2, 20	of the vessel
2003/000	medium to control element, e.g. of hydraulic fluid to actuator co-rotating with the propeller}	5/20	• • • movable from a working position to a non- working position {(movable arrangements of
3/10	<ul> <li>characterised by having pitch control conjoint with propulsion plant control</li> </ul>		propellers in general <u>B63H 5/125</u> ; outboard propulsion units in general <u>B63H 20/00</u> ;
3/12	<ul> <li>the pitch being adjustable only when propeller is stationary (B63H 3/002 takes precedence)</li> </ul>		steering or dynamic anchoring by propellers used therefore only, or by rudders carrying
5/00	Arrangements on vessels of propulsion elements	ъ	propellers <u>B63H 25/42</u> )}
2005/005	directly acting on water	Propulsion us	sing air or wind
2005/005	• {Front propulsors, i.e. propellers, paddle wheels, or the like substantially arranged ahead of the vessels' midship section}	7/00	<b>Propulsion directly actuated on air</b> (jet propulsion B63H 11/00)
5/02	of paddle wheels, e.g. of stern wheels	7/02	<ul> <li>using propellers</li> </ul>
	of Voith Schneider type }	0.10.0	
2005/025	<ul> <li>for void Schieder type;</li> <li>movably mounted with respect to the hull,</li> </ul>	8/00	Sail or rigging arrangements specially adapted
5/03	e.g. having means to reposition paddle wheel		for water sports boards, e.g. for windsurfing or kitesurfing
5 (0.4	assembly, or to retract paddle or to change paddle attitude	8/10	Kite-sails; Kite-wings; Control thereof; Safety means therefor
5/04	• • with stationary water-guiding elements	8/12	Kites with inflatable closed compartments
5/07	<ul> <li>of propellers (forming part of outboard units {or Z-drives} <u>B63H 20/00</u>)</li> </ul>	8/14	• Ram-air kites, i.e. kites at least partly inflated by air entering their leading edges during use
2005/075	• • {using non-azimuthing podded propulsor units, i.e. podded units without means for rotation about	8/16	• Control arrangements, e.g. control bars or control lines
5/08	<ul><li>a vertical axis, e.g. rigidly connected to the hull}</li><li>of more than one propeller</li></ul>	8/18	Arrangements for connecting the user to a kitesail; Kite-safety means, e.g. chicken loops, safety
5/10	• • • of coaxial type, e.g. of counter-rotative type		leashes or quick release mechanisms
2005/103	• • • {of co-rotative type, i.e. rotating in the same	8/20	Rigging arrangements involving masts, e.g. for
	direction, e.g. twin propellers}		windsurfing
2005/106	• • • { with drive shafts of second or further	8/21	Wishbones
	propellers co-axially passing through hub of	8/22	for connecting wishbones to the mast
	first propeller, e.g. counter-rotating tandem propellers with co-axial drive shafts}	8/23	• . for tensioning or trimming the clew of the sail, e.g. outhaul trimmers
		8/24	Arrangements for connecting the rigging to a board

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8/25	• • Arrangements for connecting the sail to a mast foot, e.g. downhaul tensioners or mast foot	9/1007	• • • {Trapeze systems (harnesses for windsurfers <u>B63H 8/54</u> , <u>B63H 8/56</u> )}
	extensions	9/1014	• • • • { with elastic connection to harnesses }
8/40	<ul> <li>Arrangements for improving or maintaining the</li> </ul>	9/1021	• • • • {Reefing}
	aerodynamic profile of sails, e.g. cambers, battens	9/1028	• • • • {by furling around stays}
	or foil profiles	9/1035	• • • • {by furling around or inside the mast}
8/50	. Accessories, e.g. repair kits or kite launching aids	9/1042	{by furling around or inside the boom}
8/52	Handheld cleats, cams or hooks for tensioning the downhaul or outhaul of a windsurfing sail	2009/105	{using drives for actuating reefing mechanism, e.g. roll reefing drives}
8/54	Arrangements for connecting the user or the harness to the wishbone, e.g. trapeze lines or handgrips	2009/1057	{using sheaves being friction driven by endless ropes or by ropes having two free ends}
8/56	<ul> <li>Devices to distribute the user's load, e.g. harnesses</li> </ul>	2009/1064	• • • • • { using drums driven by winding or unwinding single ropes onto or from the
8/58	Spreader bars; Hook connection arrangements		drums}
8/70	<ul> <li>Arrangements for handling, stowing or transport thereof</li> </ul>	9/1071	• • • {Spinnaker poles or rigging, e.g. combined with spinnaker handling}
0/00	M	9/1078	· · · · {Boom brakes}
9/00	Marine propulsion provided directly by wind	9/10/5	{Boom vangs}
	<b>power</b> (wind-motors driving underwater propulsive		
9/02	elements <u>B63H 13/00</u> )  using Magnus effect	9/1092	• • • • {Means for stowing, or securing sails when not in use (B63H 9/1021 takes precedence)}
9/04	<ul> <li>using sails or like wind-catching surfaces (sail or</li> </ul>	11/00	Marine propulsion by water jets
	rigging arrangements specially adapted for water	2011/002	• {using Coanda effect, i.e. the tendency of fluid jets
	sports boards, e.g. for windsurfing or kitesurfing		to be attracted to nearby surfaces}
	<u>B63H 8/00</u> )	2011/004	• {using the eductor or injector pump principle, e.g.
9/06	<ul> <li>Types of sail; Constructional features of sails;</li> </ul>	2011/00.	jets with by-pass fluid paths}
	Arrangements thereof on vessels	2011/006	• {with propulsive medium supplied from sources
9/061	Rigid sails; Aerofoil sails	2011/000	external to propelled vessel, e.g. water from public
9/0615	{Inflatable aerofoil sails}		water supply}
9/0621	• • • {Rigid sails comprising one or more	2011/008	• {Arrangements of two or more jet units}
	pivotally supported panels}		
9/0628	{the panels being pivotable about	11/01	. having means to prevent foreign material from
270020	horizontal axes}	11/02	clogging fluid passage way
9/0635	• • • • • {the panels being pivotable about vertical	11/02	the propulsive medium being ambient water
7/0033	axes}	11/025	• • {by means of magneto-hydro-dynamic forces}
9/065	Battens (for water sports board sails	11/04	by means of pumps
2/003	B63H 8/40)	2011/043	• • • { with means for adjusting or varying pump
9/067	Sails characterised by their construction or		inlets, e.g. means for varying inlet cross section
2/007	manufacturing process		area}
0/0671		2011/046	{comprising means for varying pump
9/0671	{Moulded sails}		characteristics, e.g. rotary pumps with variable
9/0673	• • • {Flying sails, e.g. spinnakers or gennakers}		pitch impellers, or adjustable stators}
9/0678	{Laminated sails}	11/06	• • • of reciprocating type
9/068	Sails pivotally mounted at mast tip	11/08	• • of rotary type
9/069	Kite-sails for vessels	2011/081	• • • { with axial flow, i.e. the axis of rotation
9/071	• • • for use in combination with other propulsion		being parallel to the flow direction}
	means, e.g. for improved fuel economy	2011/082	• • • • { with combined or mixed flow, i.e. the
9/072	Control arrangements, e.g. for launching or recovery		flow direction being a combination of centrifugal flow and non-centrifugal flow,
9/08	Connections of sails to masts, spars, or the like		e.g. centripetal or axial flow}
2009/082	• • • {Booms, or the like}	2011/084	• • • { with two or more pump stages }
2009/084	{Gooseneck bearings, i.e. bearings for pivotal	2011/085	• • • • {having counter-rotating impellers}
	support of booms on masts}	2011/087	• • • {with radial flow}
2009/086	• • {by sliders, i.e. by shoes sliding in, or guided	2011/088	{using shear forces, e.g. disc pumps or Tesla
	by channels, tracks or rails; for connecting luffs, leeches, battens, or the like to masts,		pumps}
	spars or booms}	11/09	by means of pressure pulses applied to a
2009/088	{Means for tensioning sheets, or other running		column of liquid, e.g. by ignition of an air/gas
2007/000	rigging, adapted for being guided on rails, or	11/10	or vapour mixture
	the like mounted on deck, e.g. travellers or	11/10	having means for deflecting jet or influencing
	carriages with pulleys}	11/101	cross-section thereof
9/10	Running rigging, e.g. reefing equipment	11/101	• • • {having means for deflecting jet into a
<i>7</i> /10	(staying of masts <u>B63B 15/02</u> )		propulsive direction substantially parallel to the plane of the pump outlet opening}

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11/102	• • • • {the inlet opening and the outlet opening of the pump being substantially coplanar}	16/12	• • {using hand levers, cranks, pedals, or the like, e.g. water cycles, boats propelled by boat-mounted
11/103	<ul> <li>having means to increase efficiency of propulsive fluid, e.g. discharge pipe provided</li> </ul>		pedal cycles}
	with means to improve the fluid flow		WARNING
11/107	• • • Direction control of propulsive fluid {(B63H 11/101 takes precedence)}		This group is no longer used for classification of new documents as from 01.01.2012.
11/11	• • • • with bucket or clamshell-type reversing means		The backlog of this group is being continuously reclassified to groups
11/113	Pivoted outlet		<u>B63H 16/16</u> - <u>B63H 16/20</u>
11/117	Pivoted vane	16/14	• • • {for propelled drive}
11/12	• the propulsive medium being steam or other gas		WARNING
11/14	the gas being produced by combustion		This group is no longer used for
11/16	<ul> <li>the gas being produced by other chemical processes</li> </ul>		classification of new documents as from 01.01.2012. The backlog of this group is
13/00	Marine propulsion by wind motors driving water- engaging propulsive elements		being continuously reclassified to groups B63H 16/16 - B63H 16/20
15/00		16/16	• • using reciprocating pull cable, i.e. a strand- like member movable alternately backward and
15/00	Marine propulsion by use of vessel-mounted driving mechanisms co-operating with anchored	2016/165	forward
	chains or the like	2016/165	• • • {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}
16/00	Marine propulsion by muscle power	16/18	<ul> <li>using sliding {or pivoting} handle or pedal, i.e.</li> </ul>
2016/005	<ul> <li>{used on vessels dynamically supported, or lifted out of the water by hydrofoils}</li> </ul>		the motive force being transmitted to a propelling
16/02	Movable thwarts; Footrests		means by means of a lever operated by the hand
16/04	Oars; Sculls; Paddles; Poles	2016/105	or foot of the occupant
2016/043	• • {Stop sleeves or collars for positioning oars in rowlocks, e.g. adjustable}	2016/185	• • {comprising means for transforming oscillating movement into rotary movement, e.g. for driving propeller shafts}
2016/046	• • {Oars for single-oar sculling, i.e. for propelling	16/20	using rotary cranking arm
	boats by swinging single stern-mounted oars	2016/202	• • {specially adapted or arranged for being
	from side to side; Use or arrangements thereof on boats}		actuated by the feet of the user, e.g. using bicycle-like pedals}
16/06	Rowlocks; Mountings therefor	2016/205	• • • • {making use of standard bicycles}
2016/063	{Rowlocks mounted on movable support structures}	2016/207	• • • • {without wheels}
16/067	Rowlocks mounted on a structure extending	19/00	Marine propulsion not otherwise provided for
16/073	beyond the gunwale of the vessel  • having oar shaft restraining means	19/02	• by using energy derived from movement of ambient water, e.g. from rolling or pitching of vessels
16/08	• Other apparatus for converting muscle power into	19/04	propelled by water current
	propulsive effort	19/06	<ul> <li>by discharging gas into ambient water</li> </ul>
2016/085	• • {comprising means for transmitting muscular	19/08	<ul> <li>by direct engagement with water-bed or ground</li> </ul>
	power applied in oscillatory or rotary manner to a rotary input shaft of a reversing transmission, e.g. alternatively allowing for ahead or astern	20/00	Outboard propulsion units, e.g. outboard motors or Z-drives; Arrangements thereof on vessels
	propulsion}	20/001	• {Arrangements, apparatus and methods for handling
16/10	• • for bow-facing rowing		fluids used in outboard drives (for handling exhaust
16/102	• • • {by using an inverting mechanism between		gas <u>B63H 20/24</u> ; for handling cooling-water <u>B63H 20/28</u> ; cooling outboard marine engines
	the handgrip and the blade, e.g. a toothed transmission}		F01P 3/202; air intakes for outboard marine engines
16/105	• • • {the mechanism having articulated rods}		<u>F02M 35/167</u> )}
16/107	{by placing the fulcrum outside the segment defined by handgrip and blade}	20/002	• • {for handling lubrication liquids (in engines, e.g. outboard marine engines, <u>F01M</u> )}
	common of mindgrip and order)	2020/003	• {Arrangements of two, or more outboard propulsion units}
		2020/005	• {Arrangements of two or more propellers, or the like on single outboard propulsion units}
		2020/006	• • {of coaxial type, e.g. of counter-rotative type}
		20/007	• {Trolling propulsion units (trolling plates for slowing down <u>B63H 25/50</u> ; dynamo-electric machines of trolling units <u>H02K</u> )}
			<u>-</u>

2020/008	• {Tools, specially adapted for maintenance, mounting, repair, or the like of outboard propulsion units, e.g. of outboard motors or Z-drives}	20/36	<ul> <li>Transporting or testing stands {(hand carts for transporting outboard units <u>B62B</u>; measuring torque <u>G01L 3/00</u>, measuring thrust of propellers</li> </ul>
20/02	<ul> <li>Mounting of propulsion units (<u>B63H 20/08</u> takes precedence)</li> </ul>		G01L 5/133, testing in general G01M); Use of outboard propulsion units as pumps}; Protection of
2020/025	• • {Sealings specially adapted for mountings of outboard drive units; Arrangements thereof, e.g.	21/00	power legs {, e.g. when not in use}  Use of propulsion power plant or units on vessels
20/04	for transom penetrations}		NOTE
20/04	in a well		
20/06 20/08	<ul> <li>on an intermediate support</li> <li>Means enabling movement of the position of the propulsion element, e.g. for trim, tilt or steering;</li> <li>Control of trim or tilt (initiating means for steering)</li> </ul>		This group comprises arrangements of propulsion power plant or units on vessels and to some extent it includes adaptations of such plant or units to facilitate such arrangements
20/10	<ul><li>B63H 25/02)</li><li>Means enabling trim or tilt, or lifting of the</li></ul>	2021/003	• {the power plant using fuel cells for energy supply
	propulsion element when an obstruction is hit; Control of trim or tilt	2021/006	or accumulation, e.g. for buffering photovoltaic energy}
2020/103	• • • {using a flexible member for enabling or controlling tilt or lifting, e.g. a cable}	2021/006	• {the vessel being driven by hot gas positive- displacement engine plants of closed-cycle type, e.g. Stirling engines}
20/106	• • • {Means enabling lifting of the propulsion element in a substantially vertical, linearly	21/02	<ul> <li>the vessels being steam-driven (<u>B63H 21/18</u> takes precedence)</li> </ul>
20/12	sliding movement} Means enabling steering	21/04	<ul> <li>relating to positive-displacement steam engines</li> </ul>
20/12	Transmission between propulsion power unit and	21/06	• relating to steam turbines
20/14	propulsion element	21/08	• relating to steam boilers
2020/145	{comprising means for permitting telescoping movement of components of the outboard	21/10	<ul> <li>relating to condensers or engine-cooling fluid heat-exchangers</li> </ul>
	propulsion unit, e.g. telescoping movement of power leg}	21/12	• the vessels being motor-driven ( <u>B63H 21/175</u> , <u>B63H 21/18</u> take precedence; {cooling circuits with
20/16	<ul> <li>allowing movement of the propulsion element in a horizontal plane only, e.g. for steering</li> </ul>		liquid-to-liquid heat-exchange relative to marine vessels <u>F01P 3/207</u> })
20/18	about a longitudinal axis, e.g. the through transom	21/14	• relating to internal-combustion engines {(of outboard type <u>B63H 20/00</u> )}
20/20	shaft ( <u>B63H 20/22</u> takes precedence)	21/16 21/165	<ul><li>relating to gas turbines</li><li>by hydraulic fluid motor, i.e. wherein a liquid</li></ul>
20/20 20/22	<ul> <li>with provision for reverse drive</li> <li>allowing movement of the propulsion element about at least a horizontal axis without disconnection of the drive, e.g. using universal</li> </ul>	21/103	under pressure is utilised to rotate the propelling means {(transmission from power plant or unit to propeller using fluid gearing per se B63H 23/26)}
	joints	21/17	by electric motor
20/24	• {Arrangements, apparatus and methods for handling exhaust gas in outboard drives, e.g.} exhaust gas	2021/171	• • • {making use of photovoltaic energy conversion, e.g. using solar panels}
	outlets {(in engines, e.g. outboard marine engines,	2021/173	• • • {making use of superconductivity}
20/245	F01N)} • Exhaust gas outlets (B63H 20/26 takes	21/175	<ul> <li>the vessel being powered by land vehicle supported by vessel</li> </ul>
20/26	(Exhaust gas outlets) passing through the	21/18	• the vessels being powered by nuclear energy
20/26	<ul> <li>{Exhaust gas outlets} passing through the propeller or its hub</li> </ul>	21/20	the vessels being powered by combinations of
20/28	• {Arrangements, apparatus and methods for handling	2021/202	different types of propulsion units  • • {of hybrid electric type}
20,20	cooling-water in outboard drives, e.g.} cooling- water intakes {(cooling circuits for outboard marine engines F01P 3/202)}	2021/205	• • • {the second power unit being of the internal combustion engine type, or the like, e.g. a
20/285	• • {Cooling-water intakes}	2021/207	Diesel engine }  {the second power unit being a gas turbine }
20/30	• • {Cooling-water intakes} for flushing {(circuits	21/21	Control means for engine or transmission, specially
	for flushing outboard marine engines F01P 3/205)}	21/213	adapted for use on marine vessels  • {Levers or the like for controlling the engine or
20/32	• Housings {(air intakes for outboard engines F02M 35/167)}	2021/216	the transmission, e.g. single hand control levers}  . {using electric control means}
2020/323	{Gear cases}	21/22	the propulsion power units being controlled from
2020/326	• • • {having a dividing plane substantially in plane with the axes of the transmission shafts}		exterior of engine room, e.g. from navigation bridge; Arrangements of order telegraphs
20/34	• comprising stabilising fins {, foils, anticavitation	21/24	• {the vessels being small craft, e.g. racing boats}
	plates, splash plates, or rudders (rudders carrying propellers <u>B63H 25/42</u> ; rudders carrying jets <u>B63H 25/46</u> )}	21/30	<ul> <li>Mounting of propulsion plant or unit, e.g. for anti- vibration purposes (hull reinforcements therefor B63B 3/70)</li> </ul>

21/302	• • {with active vibration damping}	2023/062	{comprising means for simultaneously driving
21/305	• • {with passive vibration damping}		two or more main transmitting elements, e.g.
2021/307	• • {Arrangements, or mountings of propulsion	2022/022	drive shafts}
	power plant elements in modular propulsion	2023/065	• • • { having means for differentially varying the
21/22	power units, e.g. using containers}		speed of the main transmitting elements, e.g. of the drive shafts}
21/32	Arrangements of propulsion power-unit exhaust      Arrangements of propulsion to viscosile.	2023/067	• {the elements being formed by two or more
21/34	uptakes; Funnels peculiar to vessels  • having exhaust-gas deflecting means	2023/007	coaxial shafts, e.g. counter-rotating shafts}
21/34	Covers or casing arranged to protect plant or unit	23/08	with provision for reversing drive
21/30	from marine environment	23/10	• • for transmitting drive from more than one
21/38	Apparatus or methods specially adapted for use on		propulsion power unit
21,00	marine vessels, for handling power plant or unit	23/12	allowing combined use of the propulsion power
	liquids, e.g. lubricants, coolants, fuels or the like		units
	({in outboard drives B63H 20/001; } lubricating or	23/14	• • • with unidirectional drive or where reversal is
	cooling machines or engines in general $\underline{F01}$ - $\underline{F04}$ )		immaterial
21/383	• • {for handling cooling-water (in outboard drives	23/16	characterised by provision of reverse drive
	B63H 20/28; in machines or engines in general	23/18	• • • for alternative use of the propulsion power
21/386	F01P 3/00)}	22/20	units
21/380	<ul> <li>{ for handling lubrication liquids (in machines or engines in general F01M)}</li> </ul>	23/20	• • • with separate forward and astern propulsion
	engines in general <u>Form</u> //	23/22	power units, e.g. turbines with non-mechanical gearing
23/00	Transmitting power from propulsion power	23/24	<ul> <li>with non-mechanical gearing</li> <li>electric {(dynamo-electric machines H02K)}</li> </ul>
	plant to propulsive elements (adaptation of	2023/245	• • • {with two or more electric motors directly
	transmission to allow adjustment in direction of	2023/243	acting on a single drive shaft, e.g. plurality
	propellers <u>B63H 5/125</u> ; transmission between wind motors and propulsive elements <u>B63H 13/00</u> ; in		of electric rotors mounted on one common
	outboard propulsion units <u>B63H 20/14</u> ; adaptation		shaft, or plurality of electric motors arranged
	of transmission to allow adjustment of location of		coaxially one behind the other with rotor shafts
	propellers <u>B63H 20/08</u> )		coupled together}
2023/005	• {using a drive acting on the periphery of a rotating	23/26	fluid
	propulsive element, e.g. on a dented circumferential	23/28	• with synchronisation of propulsive elements
	ring on a propeller, or a propeller acting as rotor of	23/30	• characterised by use of clutches
	an electric motor}	2023/305	• • {using fluid or semifluid as power transmitting
23/02	with mechanical gearing	23/32	means} . Other parts
2023/0208	• • {by means of endless flexible members}	23/321	Bearings or seals specially adapted for propeller
2023/0216 2023/0225	{by means of belts, or the like} {of grooved belts, i.e. with one or more	23/321	shafts}
2023/0223	grooves in longitudinal direction of the belt	2023/322	• • • {Intermediate propeller shaft bearings, e.g. with
2023/0233	• • • {of belts having a toothed contact surface,		provisions for shaft alignment}
2023/0233	or regularly spaced bosses, or hollows for	2023/323	{Bearings for coaxial propeller shafts, e.g. for
	slip-less or nearly slip-less meshing with		driving propellers of the counter-rotative type}
	complementary profiled contact surface of a	2023/325	• • • {Thrust bearings, i.e. axial bearings for
	pulley}		propeller shafts}
2023/0241	• • • {of V-belts, i.e. belts of tapered cross	23/326	• • • {Water lubricated bearings}
2022/027	section}	2023/327	• • • {Sealings specially adapted for propeller shafts
2023/025	• • {by means of chains}	2023/328	or stern tubes}  {Marine transmissions characterised by the use of
2023/0258	• {comprising gearings with variable gear ratio, other than reversing drives or trolling drives}	2023/326	• • {Marine transmissions characterised by the use of brakes, other than propeller shaft brakes; Brakes
2023/0266	• • {comprising gearings with automatically		therefor}
2023/0200		23/34	Propeller shafts; Paddle-wheel shafts; Attachment
	variable gear ratio, other than continuously		• • Frogener sharts, Fadule-wheel sharts, Attachment
	variable gear ratio, other than continuously variable transmissions or trolling drives }		of propellers on shafts
2023/0275	variable gear ratio, other than continuously variable transmissions or trolling drives}  {comprising means for conveying rotary}	2023/342	
2023/0275	variable transmissions or trolling drives}  • • • {comprising means for conveying rotary motion with continuously variable gear ratio,	2023/342	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}
2023/0275	variable transmissions or trolling drives}  • • • {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using	2023/342 2023/344	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}
	variable transmissions or trolling drives}  • • • {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}	2023/342 2023/344 2023/346	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}  • • {comprising hollow shaft members}
2023/0283	variable transmissions or trolling drives}  • • {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}  • • {using gears having orbital motion}	2023/342 2023/344	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}  • • {comprising hollow shaft members}  • • {with turning or inching gear, i.e. with means}
	variable transmissions or trolling drives}  • • {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}  • • {using gears having orbital motion}  • • {Trolling gears, i.e. mechanical power}	2023/342 2023/344 2023/346	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}  • • {comprising hollow shaft members}  • • {with turning or inching gear, i.e. with means for slowly rotating, or for angularly positioning
2023/0283	variable transmissions or trolling drives }  • • {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members }  • • {using gears having orbital motion}  • {Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches,	2023/342 2023/344 2023/346	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}  • • {comprising hollow shaft members}  • • {with turning or inching gear, i.e. with means for slowly rotating, or for angularly positioning of shafts or propulsive elements mounted
2023/0283 2023/0291	<ul> <li>variable transmissions or trolling drives}</li> <li>• {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}</li> <li>• {using gears having orbital motion}</li> <li>• {Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}</li> </ul>	2023/342 2023/344 2023/346 2023/348	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}  • • {comprising hollow shaft members}  • • {with turning or inching gear, i.e. with means for slowly rotating, or for angularly positioning of shafts or propulsive elements mounted thereon}
2023/0283	<ul> <li>variable transmissions or trolling drives}</li> <li>• • {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}</li> <li>• {using gears having orbital motion}</li> <li>• {Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}</li> <li>• the main transmitting element, e.g. shaft, being</li> </ul>	2023/342 2023/344 2023/346	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}  • • {comprising hollow shaft members}  • • {with turning or inching gear, i.e. with means for slowly rotating, or for angularly positioning of shafts or propulsive elements mounted thereon}  • • Shaft braking or locking, i.e. means to slow
2023/0283 2023/0291	<ul> <li>variable transmissions or trolling drives}</li> <li>• • {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}</li> <li>• {using gears having orbital motion}</li> <li>• {Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}</li> <li>• the main transmitting element, e.g. shaft, being substantially vertical</li> </ul>	2023/342 2023/344 2023/346 2023/348	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}  • • {comprising hollow shaft members}  • • {with turning or inching gear, i.e. with means for slowly rotating, or for angularly positioning of shafts or propulsive elements mounted thereon}
2023/0283 2023/0291 23/04	<ul> <li>variable transmissions or trolling drives}</li> <li>• • {comprising means for conveying rotary motion with continuously variable gear ratio, e.g. continuously variable transmissions using endless flexible members}</li> <li>• {using gears having orbital motion}</li> <li>• {Trolling gears, i.e. mechanical power transmissions comprising controlled slip clutches, e.g. for low speed propulsion}</li> <li>• the main transmitting element, e.g. shaft, being</li> </ul>	2023/342 2023/344 2023/346 2023/348	of propellers on shafts  • • {comprising couplings, e.g. resilient couplings; Couplings therefor}  • • {comprising flexible shafts members}  • • {comprising hollow shaft members}  • • {with turning or inching gear, i.e. with means for slowly rotating, or for angularly positioning of shafts or propulsive elements mounted thereon}  • • • Shaft braking or locking, i.e. means to slow or stop the rotation of the propeller shaft or to

25/00	Steering; Slowing-down otherwise than by use	2025/388	• • • { with varying angle of attack over the height of
	of propulsive elements (using movably-installed	25/40	the rudder blade, e.g. twisted rudders}
	outboard propulsion units <u>B63H 20/00</u> ); <b>Dynamic</b>	25/40	using Magnus effect
	anchoring, i.e. positioning vessels by means of main or auxiliary propulsive elements	25/42	• Steering or dynamic anchoring by propulsive elements (by jets <u>B63H 25/46</u> ); Steering or dynamic
2025/005	• {Steering specially adapted for towing trains, tug-		anchoring by propellers used therefor only;
	barge systems, or the like; Equipment or accessories therefor}		Steering or dynamic anchoring by rudders carrying propellers
25/02	• Initiating means for steering {, for slowing down,	2025/425	• • {Propulsive elements, other than jets,
	otherwise than by use of propulsive elements, or for dynamic anchoring}		substantially used for steering or dynamic anchoring only, with means for retracting, or
2025/022	• • {Steering wheels; Posts for steering wheels}		otherwise moving to a rest position outside the
2025/024	• • {Handle-bars; Posts for supporting handle-bars,		water flow around the hull}
	e.g. adjustable posts}	25/44	. Steering or slowing-down by extensible flaps or the
2025/026	• • {using multi-axis control levers, or the like,		like
	e.g. joysticks, wherein at least one degree of	25/46	• Steering or dynamic anchoring by jets {or by
	freedom is employed for steering, slowing down, or dynamic anchoring}		rudders carrying jets (steering or dynamic anchoring by deflecting or directing main propulsion jets
2025/028	using remote control means, e.g. wireless		B63H 11/00)}
2023/028	control; Equipment or accessories therefor	2025/465	• • {Jets or thrusters substantially used for steering
25/04	automatic, e.g. reacting to compass	2023/403	or dynamic anchoring only, with means for
			retracting, or otherwise moving to a rest position
2025/045	{making use of satellite radio beacon		outside the water flow around the hull}
	positioning systems, e.g. the Global Positioning	25/48	Steering or slowing-down by deflection of propeller
25/04	System [GPS]}	23/40	slipstream otherwise than by rudder
25/06	• Steering by rudders (by rudders carrying propellers	25/50	Slowing-down means not otherwise provided for
2025/062	<u>B63H 25/42</u> )	25/52	
2025/063	{Arrangements of rudders forward of the	23/32	• Parts for steering not otherwise provided for
	propeller position, e.g. of backing rudders; Arrangements of rudders on the forebody of the hull; Steering gear therefor}		
2025/066	Arrangements of two or more rudders; Steering		
	gear therefor}		
25/08	Steering gear		
25/10	with mechanical transmission		
25/12	with fluid transmission		
25/14	• • • power assisted; power driven, i.e. using		
	steering engine		
25/16	with alternative muscle or power operated steering		
25/18	Transmitting of movement of initiating		
	means to steering engine		
25/20	by mechanical means		
25/22	by fluid means		
25/24	by electrical means		
25/26	Steering engines		
25/28	of fluid type		
25/30	hydraulic		
25/30	steam		
25/34	Transmitting of movement of engine to		
25/54			
25/26	rudder, e.g. using quadrants, brakes		
25/36	Rudder-position indicators  Pudders		
25/38	. Rudders		
25/381	• • {with flaps}		
25/382	• • • {movable otherwise than for steering purposes; Changing geometry}		
25/383	• • • { with deflecting means able to reverse the water stream direction}		
2025/384	• • • { with means for retracting or lifting }		
2025/385	• • • {by pivoting}		
2025/386	• • • {by sliding, e.g. telescopic}		
2025/387	{comprising two or more rigidly interconnected		
	mutually spaced blades pivotable about a common rudder shaft, e.g. parallel twin blades		
	mounted on a pivotable supporting frame}		