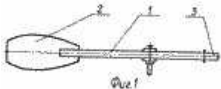
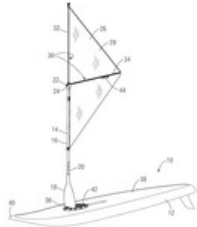
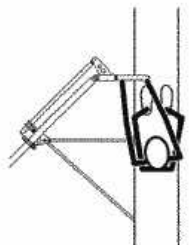
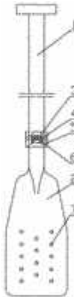
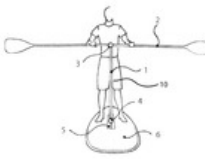
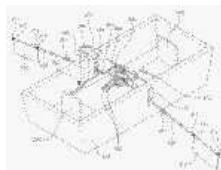
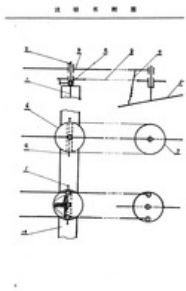
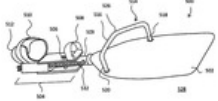
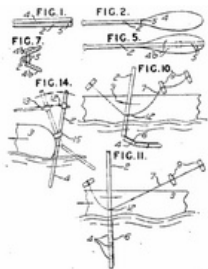
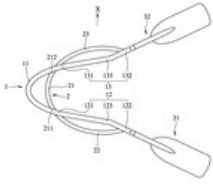
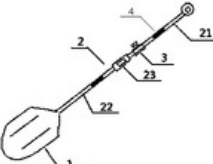
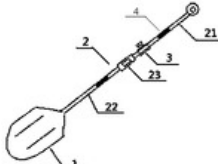
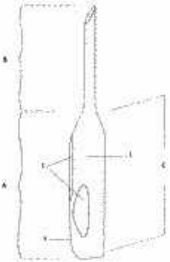
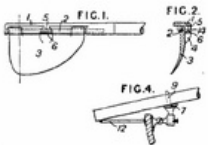
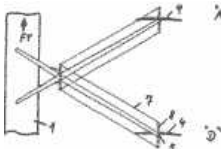
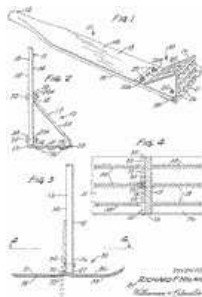
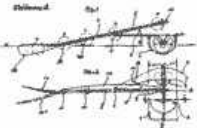
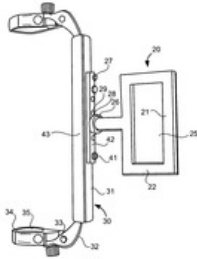
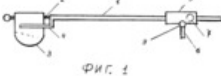
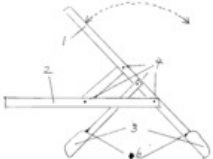
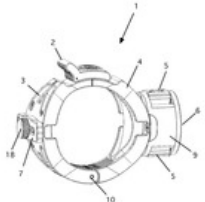
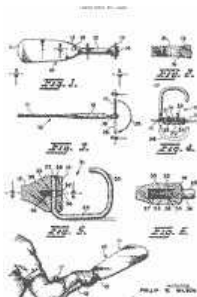
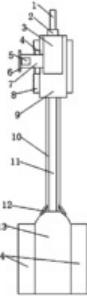
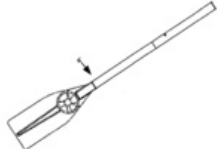
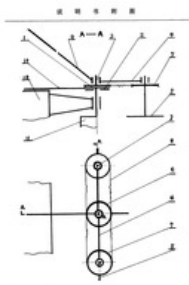
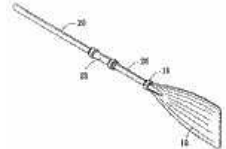
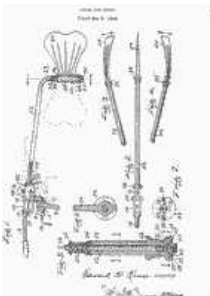


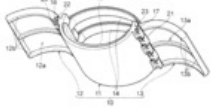
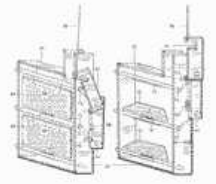
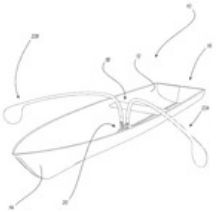
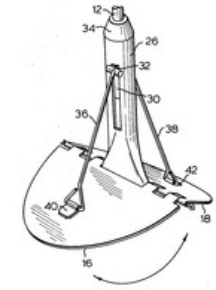
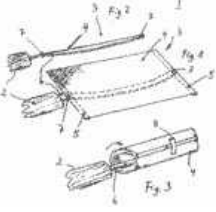
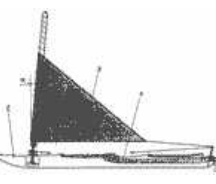
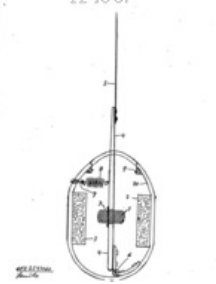
#		Title	Publication number	Publ. date	Applicant/Assignee		
1.		Oar	RU2152333	2000-07-10	VOLGOGRAD STATE TECHNICAL UNIVERSITY*		
rowing boats; construction of oars. SUBSTANCE: oar has shank with blade; handle and oarlock are fixed on shank. Blade is made in form of two longitudinal strips secured on handle at one end; blade is mounted between these strips at other end; blade is rigidly secured at ends of longitudinal strips forming adjustable arm by means of two cover plates. Each cover plate is made in form of embracing jaws with lugs whose holes receive trunnions of oarlock body for turning through angle of 360 deg. EFFECT: extended functional capabilities of oar; enhanced efficiency. 3 dwg							
2.		Sail paddle for stand up paddle boards	CA2871476	2013-10-31	C. Severz;H. Severz;Siberth, Carl SIVERTS, Curt;Siberts, Hanson SIVERTS, Hanson		
A paddle for stand-up paddle boards includes a paddle blade at a lower end of the paddle shaft and a sail assembly slidably stowed within the paddle shaft, with the sail deployed by sliding the sail assembly distally out of the upper end of the paddle shaft. The sail assembly may include a sail and support frame. The paddle shaft may be adjustable in length to accommodate different users. A method and system for transporting a user across water or other surfaces has a board for the user to stand upon and a paddle with a sail slidably deployed from inside a shaft of the paddle via an opening in the upper end of the paddle shaft.							
3.		Be applied to quant of racing boat	CN205602081	2016-09-28	JISHOU UNIVERSITY*		
The patent of the utility model relates to an equipment on the ship especially mainly relates to a be applied to quant of racing boat, including activity pipe, oar pole and two paddles, activity pipe parcel oar pole one end, still be provided with the installation button on the activity pipe, it has the slide to open on the oar pole, the installation button corresponds with the slide and clamps, activity pipe accessible installation button clamps with the slide and slides on the oar pole, two paddles articulate respectively on the oar pole other end, but two paddle hinge formulas are opened or are closed, the utility model discloses a be applied to quant of racing boat simple structure who describes, thus the speed that the length of activity guan ke slide control quant on the oar pole can the racing boat of simple single -control system face upward the sportsman simultaneously backward, when the power used the quant is the biggest, but open through paddle hinge formula, the resistance maxmizing that makes the oar pole receive water is realized laborsavingly.							
4.		Rowing oar system with articulating handle	US7708610	2010-05-04	HORAN RICHARD;MILLER JOEL		
An improved oar that has an oarlock assembly, which holds the main oar shaft and parallel link in line with each other while allowing them to pivot fore and aft and up and down; an oar shaft; a parallel link; and a knuckle. The knuckle positions the handle via a sleeve, and the parallel link that is positioned by a pivot on the end of an arm. Additionally, there is a universal joint between the oar shaft and the handle, in line with the parallel link pivot, that allows the blade to be feathered while keeping the handle perpendicular to the rowing shell at every point in the stroke.							
5.		Ice-earth boat and angle-variable oar for measuring instrument	CN200945931	2007-09-12	ZHONG CHENGBO		
The utility model relates to an ice-earth boat and angle-variable oar for measuring instrument, being characterized in that the oar root is provided with an axis hinging connection, which comprises an upper groove, a lower groove, a hinge axis, a torsion spring, or comprises a convex head, a groove, a hinge axis, a torsion spring, or providing a serial connection by a spring to connect the anti-skid oar surface, wherein the anti-skid oar surface is distributed with nails, or adhesive rubber plate, or an oar surface comprises more than two parallel bars which is provided with hooks at the end; corresponding with the position of the vertical axes surface of the oar, and with the function of outside force, the anti-skid oar surface is vertical and angle rolling to the vertical axes surface of the oar. The utility model is of reasonable structure and design to make the oar surface produce a dynamic change of angle rotating along with the outside force to improve the adhesive force of the oar surface and the contact surface, and fulfill better paddling posture and paddling speed. The utility model can be applied to measuring instrument, as well as the paddling oar of boats for ice, snow surface and ground, and has the advantages of safe operating, very convenient using, etc.							
6.		Paddle device and water vehicle	DE102012106672	2013-02-07	PRADE ERNSTFRIED		
The invention relates to a paddle device (10) for water vehicles, wherein a double or single paddle (2) is attached to a height-adjustable spar (1) so as to be movable in all directions, and the spar can be movably and detachably connected to the floating body (6) of a water vehicle, wherein the paddle device has a device (14, 16) for fixing the spar (1) in the direction of the bow and/or stern of the water vehicle; the paddle device (10) is used for force-saving paddling together with improved propulsion.							
7.		Boat with a sculling device, capable of free back-and-forth motion and rotation	KR20110099862	2011-09-09	SIN HYUN KI		
PURPOSE: A boat with a sculling device is provided to enable backward movement by pedaling and obtain a propulsion force when pushing sculls as well as when pulling the sculls. CONSTITUTION: A boat with a sculling device comprises a hull(100), a pair of paddles(200), paddle blades(210), and a pair of lever members. The hull has through holes(110) on two side walls. The paddles extend out of the hull by passing through the through holes and have a hinge motion. The paddle blades tilt in a specific range of angle around the paddles. The lever members, in which handles(310) are installed on top, are hinged on the inner sides of the side walls of the hull. COPYRIGHT KIPO 2012							

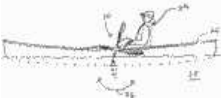
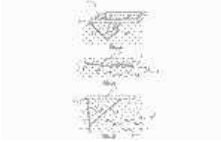
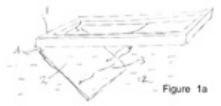
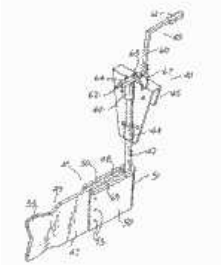
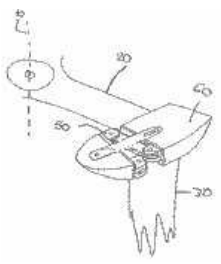
8.	Oar for water, dryland and ice boat	CN87202116	1988-01-13	ZHU YINGJI	
The utility model discloses a universal paddle for water, dryland and ice boat. The utility model uses a parallelogram principle to make the propulsion function of the paddle reasonably improved.					
9.	Articulated oar system	US20080242163	2008-10-02	BOWEN JOHN C	
An oar system is provided that keeps the blade of the oar at approximately 90 degrees to the centerline or keel of a boat throughout the normal power producing stroke. This reduces the lost effort that is expended when operating oars whose blades are fixed to the oar shaft. A series of cables and pivotal attachment points holds the oar blade at the approximate 90-degree angle to the boat keel.					
10.	Paddle for water sports	GB201401166	2014-03-12	Alexander Ian. Bonkin. O'Connor CONNOR ALEXANDER I N O* OCONNOR ALEXANDER OCONNOR ALEXANDER IAN NUGENT	
A paddle for water sports is provided that allows a user to more effectively propel themselves through the water. The paddle comprises a blade, a fastener for fastening the paddle to a user's forearm, a gripping portion mounted to the blade and a connector extending from the fastener to the paddle, wherein the connector is bendable to enable the blade to be moved between an operating position and a stowed position.					
11.	Improvements relating to paddles for boat and like boat propulsion	GB872772	1961-07-12	W G THOMSON*	
872,772. Paddles. THOMSON Ltd., W. G. March 28, 1960, No. 10806/60. Class 114. A paddle comprises a handle component 2 connected to a paddle component 4 by a hinge or flexible connections 5 whereby the two components are rigid with one another during the power stroke and the paddle component folds backwards in relation to the handle component on the idle stroke. In Figs. 5, 7 the paddle component comprises sections or wings 4b. In Figs. 10, 11 the paddle component comprises sections 4 with a flexible backing 6. A cord 7 is attached to the handle at 12 and has hand grips 9 for increasing the power applied to the paddle. The cord 7 may be replaced by a rigid member and two or more paddles may be connected by such members. Fig. 14 shows a paddle supported in a rowlock or eye 15 on the stem of the craft 3. The direction of oscillation of the paddle may be varied for steering and for propelling the craft in the opposite direction. Additional pulling power may be applied at 12 and 13.					
12.	Handheld propulsion assembly	TWM500074	2015-05-01	CUI HUIWEN;TSUEI HUEI-WERN	
A handheld propulsion assembly includes at least one propulsion subassembly. In the propulsion subassembly, pivot and hinge mounts are disposed respectively on upper and lower surfaces of a floatable board member, a crank shaft is pivotably mounted on the pivot mount about a pivot axis, a crank arm extends radially from the crank shaft, and a blade is hinged to the hinge mount. When a driven portion of the crank arm is driven to swing back and forth, the floatable board member is correspondingly moved forward and backward. The blade is angularly movable about a hinge axis between an unfolded position, where the blade has a maximized propelling force, and a folded position, where the blade has a minimized propelling force.					
13.	Ergonomic water paddle for watercraft	TWM504776	2015-07-11	CUI HUIWEN;TSUEI HUEI-WERN	
An ergonomic water paddle for a watercraft includes left-hand and right-hand arms, a cross piece, and left and right paddle bodies. The left-hand arm extends lengthwise to terminate at left front and rear ends. The right-hand arm extends lengthwise to terminate at right front and rear ends. The left paddle body is connected to the left rear end. The right paddle body is connected to the right rear end. The cross piece is disposed to connect the left front end to the right front end to permit the left and right paddle bodies to be moved synchronously with each other in each paddling stroke.					
14.	Propelling gear	SU1093620	1984-05-23	MUSIENKO VIKTOR V	
1. ROWING DEVICE predominantly for the rower, who sits by face on the motion of moving the boat, the containing oar with the handle, articulated by means of the gear quadrants with the spindle, and fixed in the oarlock, made with the housing, hinge attached by means of the horizontal and vertical axes on kronshteyne, rigidly established on board the boat, stopping devices, one of which is placed on the housing of oarlock with vyzmozhnostyu of engagement with the gear quadrant, and another is established on the bracket with the possibility of engagement with the mentioned vertical axis. and also the catch of sinking oar, that is characterized by the fact that, for the purpose of the guarantee of a possibility of the infinitely variable control of sinking oar depending on sagging of boat, one of the ends of the mentioned horizontal axis is supplied with two cams along the length of axis, and the catch of sinking oar is executed with the ring, which clenches cams and which has the rigidly fixed on it support and set screw, in this case the ring is installed with the possibility of turning relative to cams, set screw is placed between the latter, and the support of ring is established with the possibility of interaction with the housing of oarlock with the turning of ring. 2. Device on p. 1, which is characterized by the fact that the oarlock is executed T-shaped form, and its housing is supplied with the limiters of its axial displacement relative to horizontal the axis indicated rigidly fixed BY CP on it. on SA:) O5 to					
15.	Novel lifeboat oar	CN204197258	2015-03-11	JIANGSU MARITIME INSTITUTE*	
The utility model provides a novel lifeboat oar which is telescopic freely and conveniently to carry. The novel lifeboat oar comprises an oar plate and a holding rod. The holding rod (2) is composed of a first telescopic rod (21) and a second telescopic rod (22), the upper end of the second telescopic rod (22) is sleeved with the lower end of the first telescopic rod (21), and the joint between the first telescopic rod (21) and the second telescopic rod (22) is provided with a limiting pin (23). The first telescopic rod (21) is provided with a tripping preventing oar device (3), and the tripping preventing oar device (3) comprises a sleeve ring (31), a rotating sliding block (32), a hinge (33) and a tensioning spring (34). The sleeve ring (31) is composed of a pair of half rings, one end of the sleeve ring (31) is hinged through the hinge (33), the other end of the sleeve ring (31) is connected through the tensioning spring (34), and the two ends of the tensioning spring (34) are fixed at the two ends of an opening of the sleeve ring (31) respectively. The rotating sliding block (32) is located between movable openings of the sleeve ring (31) and is connected with one end of each movable opening of the sleeve ring (31) through a gasket.					

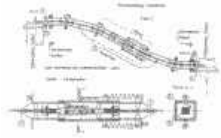
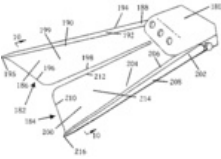
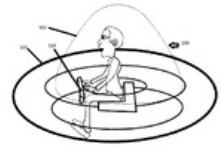
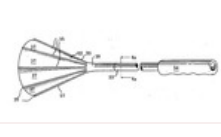
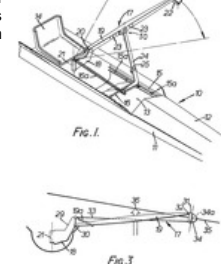
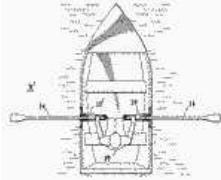
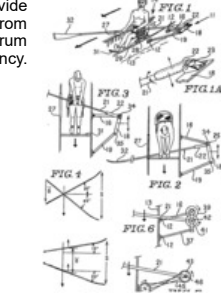
16.	Hydrodynamic oar	FR2967129	2012-05-11	ROUANET CHRISTOPHE	The invention relates to a nautical propulsion device having improved economy and improved control of the masses of water used. Said device consists of a "supporting base" (B) (handle or bar), which extends a "blade" portion also known as a "dynamic fuselage" or "reactor" (A) consisting of a single "wall" (1) or "wall structure" completed by at least one "opening or channeling furrow" (2); the "blade" of same being used at 90°, as opposed to a conventional oar, resulting specifically in the water surging thereupon being constrained so as to process the flows thereof propulsively; the "wall" portion is defined along a mean center line of symmetry (C) which formally qualifies same as the principle of a sufficiently tapered "leading edge" or "section" (3) for accurate control and steering. The device according to the invention is intended specifically for propelling water craft. 
17.	Rowing apparatus for the propulsion of boats	GB311632	1929-05-16	EMILE DEVIENNE*	311,632. Devienne, E. Oct. 12, 1928. Oars; rowlocks.-An oar operated by a simple pull and push motion has a blade 3, preferably curved in section, hinged to the member 1 by the bolt 2, the blade being maintained vertically in the water on the power stroke by the engagement of the stops 4, 5. Shock absorbing pads 6, 14, of felt, or springs, are provided. The oar is maintained at a constant inclination to the water surface by the hinged plate 7, bearing the thole 9 which passes through the member 1, and by the curved metallic rod 12 fixed to the side of the boat. For lightness, the blade may be made of celluloid, or aluminium, with a central cavity filled with cork. Specification 304,095 is referred to. 
18.	Standing watercraft with torso-mounted paddles	US20120244764	2012-09-27	FARMER JEROME CONNELLY	An apparatus for floatation and propulsion of a user on a body of water includes a floatation device, a harness and a pair of paddles. The harness attaches to the user's torso and the paddles have upper ends that pivotally interconnect with the harness. The paddles have lower water engaging ends that may be moved in a paddling motion in a generally fore-aft direction relative to the harness. 
19.	Oar with shaft and hinged blade uses parallelogram guide linkage to keep blade normal to boat long axis throughout pull stroke.	DE10027937	2001-12-13	WEYDT HARALD	During the oar (2) forward movement the oar blade (4) is directed at right angles to the boat long axis by means of a linkage made up firstly of the boat hull (1), a second guide element (6,8) rigidly joined to the blade (4) with respective two spaced hinge system and finally additional connectors (3,7) to link the first (7) and second guide (8) elements. The connectors can consist of shafts (3) and/or cable or push rod. The blade (4) is hinged to the shaft by a vertical swivel axis fitted to the center of the blade and also joined on the blade to the guide element normal to the swivel axis. The shaft (3) pivots directly on the hull or rowlock fitted to the hull outrigger (5,6). 
20.	Attachment for an oar	US3025538	1962-03-20	NOLAND RICHARD F	No abstract available 
21.	Rowing boat with vane oar	DE3837186	1990-04-26	POHLUS GUENTHER	The invention relates essentially to a rowing boat with at least one fixed or movable outrigger (4) and an oar - also called scull - allocated to the outrigger (4) and pivotable about a lever fulcrum, characterised in that the oar, by suitable buoyancy means in the form of a hydrofoil spar (8 with 12) and/or by a suitable buoyancy bulge on the blade (41 or 48) or by a non-twisting blade shape (41) automatically cutting into and out of the water, is largely prevented from undercutting, and cutting across the water also becomes unlikely on account of the rotary locking means (23), and together with the spar (8 and 12), firmly connected to the rowlock (5, 27, 28, 29), and the cord safety feature (16, 17) provides for more capsizes protection overall. <IMAGE> 
22.	Rudder for sailing boat - has adjustable opening into angled flap chambers to provide thrust control	DE2237766	1974-02-21	RAHN DIETRICH;RAHN, DIETRICH, 2303 LANDWEHR	The rudder of the sailing boat has a series of adjustable flaps which open into angled chambers w.r.t. the rudder blade and provide a thrust control when the rudder is rocked on the transom. The system allows the crew to move the boat when the wind drops without having to carry sweeps, and without any major alterations. The rudder control linkage is locked into a rigid setting so that all the thrust control is directed into the blade.

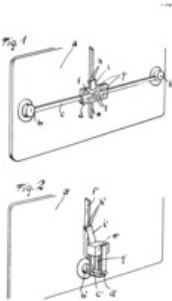
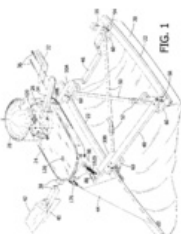
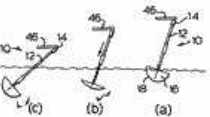
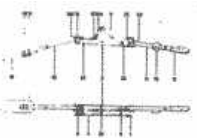
23.	Paddle handle	US20150098822	2015-04-09	LEE JAMES	A paddle handle has a handle having a handle outside member connected to a handle inside member by a handle lateral member. A handle attachment member is connected to the handle at the handle inside member. A swivel is connected to the handle attachment member. The swivel has a first position and a second position. A first handle swivel detent and a second handle swivel detent are selectively engaged by a handle swivel engagement member. The first handle swivel detent is at a different angle than the second handle swivel detent. A handle swivel control is connected to the handle swivel engagement member. The handle swivel control is biased to engage into either the first handle swivel detent or the second handle swivel detent. 
24.	Paddle-shaft length-adjustment device	KR101104774	2012-01-12	WOOSUNG I B*	The present invention relates to a paddle-shaft length-adjustment device which allows the repeated use of even a paddle shaft made of a material lacking in resilience such as aluminium, by using just a straightforward insertion process to ensure the coupling and securing of a coupling tube and the coupling-side part of a large-diameter first shaft, and by decreasing the diameter of a tube-reduction part of the coupling tube, endowed with a restoring ability, and so directly securing a second shaft in the tube-reduction part. The present invention comprises: an insertion engagement hole which is formed in the front-to-rear direction of the coupling-side part of the first shaft which is tubular; the second shaft which is inserted into the first shaft; the coupling tube wherein the inner hole is formed so as to have, on one side, a tube-expansion part where the coupling-side part of the first shaft is inserted, and is formed so as to have, on the other side, the tube-reduction part into which is tightly inserted the outer circumferential surface of the second shaft, which is inserted into the first shaft, with a boundary constituted by a perpendicular boundary surface formed in the middle thereof, and wherein the upper part of the tube-reduction part is formed so as to have an elongated open hole in the length direction; front and rear engagement securing parts which are respectively formed to the front and rear of the tube-expansion part (32) and which engage with and thereby secure the insertion engagement holes formed to the front and rear of the first shaft; and a clamping part which is provided on the tube-reduction part of the coupling tube and secures the second shaft to the tube-reduction part by decreasing the diameter of the tube-reduction part as the space across the elongated open hole narrows. 
25.	Boat oar with swivel rowing blade	RU2003106044	2005-01-10	Janvarev Jurij Ehrminovich (RU);Poljakov Dmitrij Andreevich (RU)	FIELD: sports; sports equipment; active rest and tourism. ^ SUBSTANCE: oar has pole with steel pin at the end; swivel rowing blade is fitted on this pin. During working cycle of rowing, swivel rowing blade is held in vertical position by means of rest. At reverse idle cycle of rowing, blade slides over water surface. Oar with rest is fixed in tubular oarlock in two positions: behind working surface of blade and on opposite side of blade. ^ EFFECT: enhanced efficiency of oar; ease in use. ^ 4 dwg 
26.	Improvement to boat oars	FR567692	1924-03-07		
No abstract available					
27.	Hand stroke paddle	JP2007137404	2007-06-07	HUMIO WATANABE*	PROBLEM TO BE SOLVED: To provide an easily handled paddle since a conventional paddle requires practice such as putting in twisting. SOLUTION: Pressing plates are made to two sheets are crossed using a hinge 6. Thereby, even if they are pulled and pushed, progression is performed. COPYRIGHT: (C)2007,JPO&INPIT 
28.	Oarlock system	US9376190	2016-06-28	HORAN RICHARD	An improved oarlock system having a sleeve that is attached to an oar, a set of cam blocks installed in the sleeve that can be moved to adjust the inboard of an oar, an oarlock that is positioned over the sleeve so that it contacts the cam blocks. There are several combinations of sleeve type and cam block available for use. The oarlock can be fitted to different sized pins. Pitch of the oar can be easily adjusted using the oarlock and sleeves. Improvements in the use of the sleeves, cam blocks and oarlock permit replacement of worn parts and increased stability of the components when in use as well. 
29.	Paddle-integrated communication device	US20160052611	2016-02-25	LOW COUNTRY MARINE SAFETY*	A paddle apparatus for use by a user, of a vessel, to propel the vessel through water may include a shaft having a first end and a second end that is opposite of the first end; a first blade that is attached to the first end; a handle or a second blade that is attached to the second end; and an electronic communication device that is integrated within or attached to the handle, the shaft, or the second blade. The electronic communication device may enable the user to communicate with another user or authorities via a network or over the air. 
30.	Boat sculling paddle	US3518024	1970-06-30	PHILLIP M WILSON	No abstract available 

31.	Multi -functional anti -skidding quant	CN204775960	2015-11-18	ZHOUSHAN JUYANG TECHNOLOGY DEVELOPMENT*	The utility model provides a multi -functional anti -skidding quant, including the quant body of holding rod with the paddle board, wherein the centre of holding rod is equipped with the through -hole, be equipped with the metal stiffener in the through -hole, the end of holding rod is equipped with the paddle board, the paddle board both sides are equipped with the flank board, be equipped with buckle coupling mechanism between paddle board and the holding rod, the upper portion of holding rod is equipped with the handle, be equipped with anti -skidding mechanism on the handle, be equipped with spiral spring in the handle, antiskid mechanism comprises antiskid pipe and non -skid band, the antiskid tube -surface is equipped with the bump, the antiskid pipe is located the handle on the surface, the handle is managed with the antiskid and is equipped with the rectangle through -hole, the end of non -skid band passes the rectangle through -hole and is connected to on the spiral spring, be equipped with the magic subsidies on the head end medial surface of non -skid band, the top of handle is equipped with and hangs the area, this quant is the quant of anti -skidding type, to the person of rowing the boat, can strengthen the security of use, and the anti -skidding pipe on the handle can increase the anti -skid factor of handle, and the non -skid band still can be wrapped up in the hand on the handle, and prevents the quant landing.	
32.	Combination hand-held multi-directional propulsion device, and powered oar/paddle for rowboat, canoe, kayak, and the like	US20110223816	2011-09-15	BOUKAS ALEX;BOUKAS ALEXANDER	A multi-functional modular device includes: a shaft; electric motor(s); propeller(s); battery(s); and paddle blade(s) being removably attachable to the shaft for levering of a boat. With the blade(s) attached to the shaft and motor(s) de-energized, the device is usable for manual levering, and with the motor(s) energized, propeller thrust selectively assists in levering to propel the boat. Propeller thrust in a direction opposite to a propulsive direction from levering reduces work required per stroke, reducing the total levering power per stroke. Alternatively, using the thrust in the same direction as propulsive levering increases total propulsive power per stroke, but requires greater strength/work output by the rower/paddler. Removing the blade permits the propeller and motor to be statically submerged and clocked for directional propulsion. A hinged kayak paddle embodiment is adapted for pure levering, and is convertible to a propulsion device by releasably attaching an electric pod motor to the blade(s).	
33.	Common scull for boats on water, ground and ice	CN87202900	1987-12-26	ZHU YINGJI	The utility model discloses a universal scull for boats on water, ground and ice, belonging to a scull for a boat. With the principle that the opposite edges of a parallelogram are parallel to each other, the direction of the output force of the lower propeller of the scull is made to parallel to the direction of the boat, so that the universal scull for boats on water, ground and ice saves labor. The operation of the universal scull is very similar to that of the prior art; the utility model can be widely used for parks, schools, amusement parks and water areas for people to play, exercise and produce.	
34.	Device for propelling a vessel	US9511837	2016-12-06	REEVES JOHN	A device for propelling a vessel through water that includes an elongated handle; a grip at one end of the elongated handle; a paddle-shaped frame at an opposite end of the handle; a pair of blades that are pivotally supported at opposed respective sides of the frame and that have an open position and a normally biased closed position; and a cam supported by the frame and operated from the grip end of the handle. The cam is constructed and arranged to control the position of the blades so that in one position thereof the blades are partially opened allowing the blades to pivot, and in another position thereof the blades are nested against the frame so that the blades are maintained in the closed position.	
35.	Finlike flexible sculler	CN2646041	2004-10-06	LIN JUNZE	The utility model provides a finlike flexible sculler, mainly comprising a handle which is a hard rod body for applying force, a fulcrum part arranged at one end of the handle and pivoted on a fixed sculler seat of the boat, and a finlike flexible sculler surface which is made of elastic material with one end combined on the fulcrum part, when the boat is moved forward by swinging the sculler, the resistance to water and the vector for offsetting the advance power can be reduced to lowest because of the characteristics of different soft-hard and different elasticity of each part of the sculler surface, and the flexible sculler surface, so the user can receive a simplest and most labor saved tool which can make the boat body forward with the most economic mode.	
36.	Floating trainset	FR754648	1933-11-10			
No abstract available						
37.	Scull for boats	US2365415	1944-12-19	KRUSE EDWARD H		
No abstract available						

38.	Bracelet type paddle	JP2015181793	2015-10-22	HIROTA YOSHIHISA	
PROBLEM TO BE SOLVED: To provide a bracelet type paddle which can increase propulsion power acquired by paddling water and minimizes muscle fatigue without applying an excessive load to a wrist.SOLUTION: The bracelet type paddle is configured by combining paddle pieces 12, 13 for paddling water with means 14 for wearing the paddle pieces 12, 13 on a forearm part, the wearing means 14 is attached to the forearm part to constitute a portion of a bracelet, the paddle pieces 12, 13 have at least one paddle piece 12 and/or 13, and have a shape and a structure such that the paddle pieces 12, 13 approach the forearm part when closed and separate from the forearm part to exert required hydraulic performance when opened. In addition, the paddle pieces 12, 13 are pivoted rotatably by bearing parts 16, 17 to locations such that the paddle pieces tend to open when moving an arm from forward to backward, and conversely, tend to close when moving the arm from backward to forward.					
39.	Reciprocating oar with propulsion reversing system	US20090088035	2009-04-02	GONZALEZ GUSTAVO	
A manually-operable reciprocating rowing system having a reversible oar for forward or reverse propulsion. The oar has a plurality of pivoting blades mounted in a housing and movable between open and closed positions with each stroke of the oar. In the open position, the blades are positioned to allow water passage through the housing, while in the closed position, the blades are positioned to obstruct water passage through the housing. Gates are provided for stopping the pivoting movement of the blade at the blade housing. A reversing mechanism selectively pivots the gates to allow the blades to pass from one side to an opposite side of the housing, thereby allowing propulsion in a reversed direction.					
40.	Forward facing rowing apparatus	US9004965	2015-04-14	ANDERSON RON	
A Forward Facing Rowing Apparatus and the associated vessel. The apparatus has a single attachment point and pivot assembly for supporting the oars. A built-in set of leaf spring elements reduce user effort by providing lifting force to raise the oar members. The apparatus is deployable on vessel hulls of virtually unlimited configuration, while still offering proper rowing leverage between the user's hands and the blades without the need for supplemental mounting systems or outriggers. The apparatus is stowable within the center area of the vessel hull. The positioning of the central pivot point for the oars can be adjusted along the axis of the vessel hull so that it can accommodate a wide variety of user preferences. An alternate design includes a foot-assisted sliding trolley mounting assembly that enables the user to add leg/foot power to the stroking motion. Furthermore, the apparatus is removable from the hull for transport or storage.					
41.	Ski propulsion paddles	US4098219	1978-07-04	TESAN RICCARDO	
Manually operable propulsion paddles, for use in water skiing or boating are provided with a lower water-engaging portion, an upwardly-extending shaft and a handle at the upper portion of the shaft. The water engaging portion comprises a pair of plates hingedly secured on a hinge pin mounted on the lower portion of the shaft. The plate members assume an open position when downward force is exerted on them, for propulsion through the water, and a closed position for easy withdrawal through the water.					
42.	Auxiliary paddle	DE9415278	1994-11-17	ROVER DANIEL*	
No abstract available					
43.	Outrigger sailing canoe, comprises canoe with outrigger pivot system and mast-furling sail	DE202005011932	2005-11-17	FLEISCHER HORST*	
The boat is essentially a canoe provided with an outrigger pivot system and an mast-furling sail. The outrigger is attached to the boat via two respective parallel cross-beams. The outrigger pivot system is provided with a tensioning rope with winding roller for each outrigger.					
44.	No title available	DE8714112	1988-02-04	LEWITZ REINWALD 3100 CELLE*	
No abstract available					

45.	Hand held automatic boat scull - has blade turning coaxially to handle to either side of central plane	FR2423394	1979-11-16	BAULARD RAYMOND*	The boat propulsion mechanism forms an automatic scull, having an actuating handle pivoting on the boat, e.g. on the sternboard, and a propulsion blade. The blade (2) turns on an axis coinciding with that of the handle (21) to opposite sides of a central plane through an angle of less than 90 deg., typically between 30 and 60 deg.. The axis of rotation of the blade can be offset parallel to the handle axis, separating the blade into equal surfaces. There can be springs opposing the tendency of the blade to turn to either side of the central plane.	
46.	Portable paddle assembly for a watercraft	CA2324744	2001-04-26	BROOKS GRANT	A propulsion system for a personal watercraft comprises a pair of paddle assemblies and a drive shaft extending between the paddle assemblies to induce co joint rotation thereof. A drive mechanism is coupled to the drive shaft and a pair of supports connect the drive shaft to the watercraft on opposite sides thereof to permit rotation about a common axis. The drive shaft is connected to the paddle assemblies by a releasable coupling to permit ready disassembly thereof. The paddle assembly comprises a central hub and a plurality of paddles coupled to and radially extending from the central hub. Each of the plurality of paddles comprises a front surface and a rear surface, wherein the front surface of the paddles is oriented away from the personal watercraft when the paddle assembly is positioned adjacent thereto. The propulsion system is separable into a plurality of individual sections and is thereby portable.</ SDOAB>	
47.	Propeller rod rotating shaft	CN201661613	2010-12-01	YE DALIN	The utility model designs a propeller rod rotating shaft which mainly includes the fixing seat of the rotating shaft; the rotating shaft is arranged in the fixing seat of the rotating shaft; a propeller rod is arranged in the rotating shaft; a conical propeller rod locking clip is sleeved on the propeller rod; a propeller rod locking nut matched with the propeller rod locking clip is arranged on the propeller rod locking clip; the propeller rod locking nut is matched with the locking sleeve of the rotating shaft fixed on the rotating shaft through a set screw in a screwing way; the rotating shaft and the propeller rod can be fixed together through the cooperation between the propeller rod locking nut and the propeller rod locking clip, which can effectively transmit and can be conveniently assembled and dismounted. The fixing sleeve of the rotating shaft is sleeved with the propeller rod; one end of the fixing sleeve of the rotating shaft is matched and fixed with the rotating shaft through a set screw; the other end of the propeller rod rotating shaft is matched with the propeller rod locking clip; the propeller rod locking clip is fixed and matched with the propeller rod through a propeller rod locating and locking nut, thereby leading the rotating shaft to be capable of moving up and down along the propeller rod in a certain scope. The position of the rotating shaft can be directly adjusted under the situation that the rotating shaft is not stopping rotating, which is suitable for the demands of various using environments.	
48.	Apparatus for providing a propulsive force in water	GB201012510	2010-09-08	SPURGEON PETER JOHN CHARLES	Apparatus for providing a propulsive force in water, which apparatus comprises a frame (1), at least one flap (2), and at least one flexible tensile component (3), the apparatus being such that the flap (2) is pivotally secured to the frame (1), and the flap (2) is also connected to the frame (1) such that when the apparatus is immersed in water and there is relative movement between the apparatus and the water, the flap (2) moves about the frame (1) according to the direction of relative flow, the flap (2) rotates to an angle of lesser resistance in one direction of relative flow but to an angle of higher resistance in the opposite direction of relative flow, and the flap (2) is restrained in the angle of higher resistance by the flexible tensile component (3) thereby to transmit a force in the flexible tensile component (3) to the frame (1), and the apparatus also being such that at least one of the frame (1), the flap (2) and the flexible tensile component (3) is made of polymer material.	
49.	A device for operation in a fluid having a hinged flap	GB0913689	2009-09-16	SPURGEON PETER J C*	A device for operation in a fluid is described. The device comprises at least one flap 2 hinged at one side to a frame 1 and adapted to have a greater resistance to movement through the fluid in one direction than the other. A user may generate propulsion by moving the device in a reciprocating motion through the fluid. The device is also provided with flexible tensile components 3, attached between a portion of the flap opposite to the hinge 4 and the frame, that restrict movement of the flap, to a set angle, as the device is moved through the fluid in the direction of greater resistance. The device may be used as a swimming or rehabilitation aid, an item of fitness equipment, or a propulsion or maneuvering means. The device may be operated with one or two hands and may be buoyant.	
50.	A rudder	GB9804100	1998-04-22	COSTELLO PADRAIC	A rudder (40) has a rudder blade (41) mounted on a tiller stock (42) which is pivoted by a tiller (43). The tiller stock (42) is rotatably mounted on a mounting plate (45) which is engagable with a transom on a boat to mount the rudder (40) on the boat. The rudder (40) has a flexible drive fin (47) an inner end of which is clamped between a pair of metal plates (50) attached to the tiller stock (42). A free outer end of the drive fin (47) has a fish tail shape. An inner end of the rudder is rigid to provide steering like a conventional rudder while the outer end flexes back and forth like a fish tail if the tiller is moved back and forth to provide propulsion to drive the boat through the water.	
51.	Airfoils with automatic pitch control	GB0702552	2007-03-21	DAVID LAWSON	An airfoil (30) arranged for use in a fluid flow of varying direction relative to the airfoil, has arranged thereon a plural axis hinge (50) for automatic adjustment of the angle of pitch of the airfoil. The airfoil can be applied to a rotary crossflow device for use in a fluid flow of varying apparent flow direction, an oscillating device for use in a fluid flow, a force generation device for use in a fluid flow of varying direction, or a flow control device for use in a fluid flow of alternating direction.	
52.	High efficiency hydrofoil and swim fin designs	WO9725109	1997-07-17	MCCARTHY; PETER T.;PETER THOMAS MCCARTHY	Methods are disclosed for increasing lift and decreasing drag on hydrofoils and swim fins. The methods include providing a hydrofoil (104) with a highly swept back leading edge portion (108) and orienting the hydrofoil (104) at a significantly reduced angle of attack in which the reduced angle of attack occurs at an angle that is substantially transverse to the hydrofoil's direction of movement through a surrounding fluid medium. Methods are disclosed for providing a hydrofoil with a substantially longitudinal recess or venting system located substantially along the center axis of the hydrofoil. The attacking surfaces of such hydrofoil are provided with an anhedral contour that forms a substantially lengthwise channel with the recess or venting system located along the center axis of this lengthwise channel. The central recess or venting system also permits the water flowing in an attached manner along the lee surfaces of the hydrofoil to merge with the water flowing from the attacking surfaces through the recess or venting system so that lift is efficiently generated.	

53.	Arrangement for rowing facing forwards	EP1564134	2005-08-17	REHFELD JENS	
The steering device has a blade holding body with the closing fork for the wartime-side support of the blade part, and a fixing shrew for the boat-side support of the blade part, thus enabling the killer to be separated from the blade part. The blade part can be laid in the open fork. When the fork is closed, it takes an axial forces and passes transverse forces to a support. The.					
54.	Lever powered watercraft	US7267586	2007-09-11	MURPHY STEPHEN C	
Embodiments of the disclosure include a flotation device or watercraft propelled through the water using a (ever powered propulsion system. The lever powered propulsion system includes human powered actuating levers operably connected to a reciprocating propulsion device. As a rider powers the levers up and down, that motion translates to the propulsion device, which cycles through a high drag propulsion phase and low drag recovery phase.					
55.	High efficiency hydrofoil and swim fin designs	US20010044246	2001-11-22	MCCARTHY PETER T.	
Methods are disclosed for increasing lift and decreasing drag on hydrofoils and swim fins. The methods include providing a hydrofoil with a highly swept back leading edge portion and orienting the hydrofoil at a significantly reduced angle of attack in which the reduced angle of attack occurs at an angle that is substantially transverse to the hydrofoil's direction of movement through a surrounding fluid medium. The lee surfaces of the hydrofoil are provided with a substantially unobstructed flow path as well as a separation reducing contour so as to permit lift generating attached flow conditions to form along such lee surfaces. Substantially rigid structural reinforcement is provided to prevent the hydrofoil from deforming significantly during use. Methods are disclosed for providing a hydrofoil with a substantially longitudinal recess or venting system located substantially along the center axis of the hydrofoil. The attacking surfaces of such a hydrofoil are provided an anhedral contour that forms a substantially lengthwise channel with the recess or venting means located along the center axis of this lengthwise channel. Methods are disclosed for applying these lift generating and drag reducing methods to both non-flexible and flexible hydrofoil blades that are used in reciprocating propulsion strokes through a fluid medium. Also provided are methods for significantly controlling and reducing the build up of torsional stress forces within a flexible hydro foil as it is encouraged to twist to a reduced angle of attack during use.					
56.	A flotation apparatus	WO2014148882	2014-09-25	JOHNSON & NICHOLSON*	
The present invention discloses a flotation apparatus (100) comprising a peripheral hollow float structure (101) having a top opening; a shelter (102) attached to the top opening for partially or completely enclosing the structure (101); and at least one compartment (103) incorporated to the periphery of the structure (101) or below the structure (101); wherein the float structure has a base (104) that allows at least a user to sit or stand on the structure (101); or a bottom opening that fits through the body of the user along with the top opening partially or completely such that the user can sit or stand while floating and being supported by the structure (101).					
57.	Water propulsion device	US3800734	1974-04-02	LEE YUN WHANG	
A compression head with an inner valve is adapted for improved water propulsion.					
58.	Rowing rigs for rowing vessels and outriggers for such rowing rigs	EP0016600	1980-10-01	CARTWRIGHT A*	
This invention relates to rowing rigs for use on rowing vessels and to outriggers for use in such rigs. <??>A scull (10) has a fixed seat (14) and a stretcher (16) slidably mounted in guides (15). An outrigger (17) is provided to support an oar by means of rowlock (22) at its free end. The other end of outrigger (17) is pivotably mounted on scull (10) about vertically extending axis (21). A coupling element (24) couples outrigger (17), whereby as the stretcher is moved fore-and-aft during rowing the outrigger (17) is pivoted about axis (21). The coupling position of element (24) to outrigger (17) is adjustable. <??>In an alternative embodiment the outrigger (17) is provided with an interconnecting member which assists raising of the blade of an oar. <??>Forms of the invention for conventional rowing boats are also described.					
59.	Forward-facing rowing	US5630739	1997-05-20	MELE; PETER C.;PETER MELE	
An oar mounting system for forward-facing rowing in which an arm or pulley strut (12) is hinged to a support or gunwale frame (11), with an end of the arm extending from the frame and rotationally mounting an auxiliary or inner oar frame (13) to which an oar loom is attached and the auxiliary frame (13) is tensioned with respect to the arm (12). The tensioning is by a cable (16) that extends from a terminal post (12-s) on the auxiliary frame around a pulley (12-p1) at the end of the arm (12) and around a further pulley (12-p3) hinged to the support frame.					
60.	Structure of arm for a rowing boat	GB2014930	1979-09-05	WESTON C*	
IMPROVED OUTRIGGER A rod pivotally attaches to the side of a boat, extends outwardly therefrom, and connects with the free end of an oar together with a restraint to provide a fulcrum remote from the side of the boat as the oar is pulled from fore to aft positions through a stroke. The restraining means, such as a forward link extending outwardly from the side of the boat and a control link connecting the outer ends of the rod and forward link, allows aft movement of the fulcrum during the stroke. The position of the fulcrum together with its aft movement reduce the component of the force normal to the blade that acts normally to the direction of motion thereby increasing the propulsive efficiency. Alternative restraining means, such as a gear and pinion or pulley arrangement or the like, can be used to control aft movement of the fulcrum. (From CA1121222 A1)					

61.	Window wiper for motor vehicles	FR1472925	1967-03-17	COUGET JACQUES JEAN PIERRE,JACQUES COUGET	
62.	Rowing apparatus	US6083066	2000-07-04	WRIGHT; TERRY ELLWOOD	
63.	Ski propulsion poles	US4068610	1978-01-17	TESAN RICCARDO	
64.	Multiplied-up oar	FR2642036	1990-07-27	JULIEN JEAN LOUIS*	
65.	No title available	DE8621139	1987-03-19	KOPP JOSEF 8450 AMBERG*	

No abstract available