序号	标题	摘要	申请人	申请号	申请日
1	The extension flow nozzle	Disclosed are an improved nozzle for an unmanned underwater vehicle (UUV), and a method for operating the same. The nozzle includes a first rigid member operatively coupled to a UUV steering mechanism. The nozzle also has a second rigid member, coupled to the first rigid member by a flexible bellows according to a configurable operating angle. The nozzle does not extend beyond a bounding surface when stored but does when deployed. Water traversing the first rigid member and contacting the second rigid member produces a reactive force according to the configurable operating angle. Simultaneous and independent control of the volume of fluid traversing several such nozzles in the UUV, and their respective orientations and operating angles, permits automatic station-keeping or navigation according to	レイセオン カンパニー	JP2020564052	2019/2/8
2	Water environment the mobile robot	A water environment robotic system that includes a control station, an underwater robotic vehicle, and a water-surface robotic vehicle. The underwater robotic vehicle is in communication with the water-surface robotic vehicle and the water-surface robotic vehicle is in communication with the control station. Accordingly, the water-surface robotic vehicle can act as a relay between the control station and the underwater robotic vehicle. The water-surface robotic vehicle is further capable of detecting the position of the underwater vehicle and automatically adjusting the position of the underwater vehicle in order to maintain general vertical alignment between the two vehicles.	サウジ アラビアン オイル カンパニー	JP2017548989	2016/3/14
3	The core shroud for inspecting the remote vehicle, system, and method	The method includes installing a system for inspecting the core shroud on the core shroud, driving the system horizontally around the core shroud, and using a sensor of the system to inspect the core shroud, where the system includes a trolley, an arm, a tether, and a remotely operated vehicle (ROV) for inspecting the core shroud. The ROV includes a body configured to be operatively connected to the tether, and the sensor is configured to be operatively connected to the body, and configured to provide inspection information of the core shroud. The arm is configured to be operatively connected to the trolley. The ROV is configured to be operatively connected to the arm via the tether, and the tether is configured to provide vertical position information for the ROV relative to the outer surface of the core shroud.	GE HITACHI NUCLEAR ENERGY AMERICAS LLC	JP2017149562	2017/8/2

4	Water-bottom bio-gathering robot and water bottom biological collection system	[Challenge]Provide a water-bottom bio-gathering robot and a water bottom biological collection system that can improve the ability of water-bottomed organisms to be captured. [Solution] The water bottom biological collection robot 1 embodiment is a robot that sucks and captures a water bottom organism while floating in water, a main body 2, an underwater camera 3 for discovering a water bottom organism, an inhalation tube 4 for inhaling a water base organism, a horizontal thruster 5 that generates thrust for moving the main body 2 horizontally, and a vertical thruster 6 that generates thrust for moving the main body 2 vertically; A tilt thrust 7 that generates thrust for tilting the main body 2 so that the inlet P of the inhalation tube 4 is close to the water base organism is provided. [Selection Figure]Figure 2	国立大学法人東京海洋大学	JP2020110605	2020/6/26
5	Autonomous unmanned submersible charging system for lifting method and autonomous unmanned submersible	A charging system includes a charging station having : a base underwater; a pole extending in an upper-lower direction; and a power supplying portion. An AUV includes : an underwater main body; a power receiving portion; a holding device including a pair of guide and holding portions, the pair of guide portions guides the pole to a holding position after the pole contacts the guide portions from a proceeding-direction, the holding portion holds the pole to be rotatable relative to the pole; a thrust generating apparatus generates in a horizontal direction; and a control device controls the thrust generating apparatus. A light emitter at one of the base and the underwater main body, and a light receiver is provided at the other. The control device controls the thrust so the underwater main body reaches a rotational position where the light receiver receives light emitted, the rotational position set relative to the pole.	川崎重工業株式会社	JP2019539707	2018/9/3
6	The glass composition, the glass plate and a glass plate is used for a vehicle window glass	The present invention relates to an ultraviolet-shielding glass sheet including a glass composition based on soda-lime glass, the glass composition containing iron oxide and TiO2as coloring components. The glass sheet has a thickness of 1 to 5 mm, and an ultraviolet transmittance (Tuv 380) as determined at the thickness according to ISO 9050 : 1990 is 1.5% or less.	日本板硝子株式会社	JP2016562310	2015/12/2

7	Submarine Foundation Construction Robot	To provide a seabed foundation construction robot capable of fixing an ocean structure permanently in the sea/submarine in a short period of time and at low cost and constructing a foundation of ocean current power generation, a foundation for methane hydrate submarine work, and a foundation such as an offshore wind power generation facility.SOLUTION : A seabed foundation construction robot which builds foundation on the seabed by making a hole in the bedrock on the seabed and inserting the foundation in the hole comprises multiple tubes 10A, 10B, 10C with a cutting edge 50 at the lower end, and includes a drilling machine 8 for rotating the multiple tubes 10A, 10B, 10C while moving them up and down to make holes in the rock, a casing 7 accommodating a plurality of foundations to be inserted into the holes, a frame 1 for supporting the drilling machine 8 and the casing 7 and having at least three legs 2 at its lower part, and a moving mechanism for moving the drilling machine 8 and the casing 7 accommodating a plurality of foundations on the frame 1.SELECTED	株式会社 エンチ	JP2017247279	2017/12/25
8	Termination of epoxyless remote control vehicle	An improved method and apparatus for securing remotely operated vehicles (ROVs) and other similar underwater equipment that require an umbilical power and/or communications cable to a docking collar termination.	ピーエムアイ・インダストリーズ・インコーポレイテッド	JP2021533385	2019/8/21
9	The inspection system, the attitude detection device, inspection method, a posture detecting method and computer program	[Problem] underwater robot was used to check the inspection system network, attitude, and inspection method, method and computer program for detecting posture. [Solution] an inspection system is water, and the imaging section, the imaging section of an underwater accepting an information network, based on information received by the receiving, detecting portion included in the contour of the mesh, the mesh portion is detected based on the contour included in the, underwater robot posture with a leading position with respect to imaging the network net. Figure 1 [drawing]	KDDI株式会社	JP2020076176	2020/4/22

10	The remote control system, the mobile unmanned, remote control method and program	[Problem] underwater robot remote control of a remote control system, the mobile unmanned, remote control method and program. The remote control system for remotely controlling a robot [solution] water, underwater robot control information is transmitted from the radio communication terminal, the radio communication terminal transmits the control information to the mobile unmanned underwater robot is provided. The mobile machine is unattended, a first communication part 1 receives control information, the first communication unit receives control information is transmitted to the robot 1 via the cable in the first communication section 2. In the robot, the first communication unit receives control information transmitted by the communication unit 2, based on the control information received by the communication unit, and a control part driving the robot in section.	KDDI株式会社	JP2020077109	2020/4/24
11	The core sampling device and sampling method of submarine ground core	Core sampling is enabled over a wide range of areas of the seabed. The present device is provided with a main robot that is moved underwater by remote operation, and a sampling robot that is connected to a manipulator that is attached to the main robot, and that can move in relation to the seabed. The sampling robot is provided with a core tube for excavating the seabed by being rotated and propelled, introducing into the core tube a core of the seabed by the excavation, and breaking the introduced core into core pieces. The main robot is provided with a core rack for storing the core pieces taken from inside the core tube.	鉱研工業株式会社	JP2018541073	2017/9/19

12	The composition and manufacture of labeled nucleic acid phosphatase dephosphorylation nucleic acids	An object of the present invention is to provide a composition containing an alkaline phosphatase and having a high quality, a method for producing a dephosphorylated nucleic acid by using the composition and a method for producing a labeled nucleic acid by using the composition, and in order to achieve the object, the present invention provides a composition containing : an alkaline phosphatase; anda peptide fragment group (A) composed of two or more peptide fragments, wherein each of the two or more peptide fragments consists of 5 to 50 consecutive amino acid residues selected from positions 501 to 578 of the amino acid sequence set forth in SEQ ID NO : 5, wherein a content ratio of the peptide fragment group (A) to the alkaline phosphatase satisfies the following formula (A) : XA/Y×100≤ 4.4000wherein XA represents a peak area value of the peptide fragment group (A) calculated by an automatic integration method from an extracted ion chromatogram obtained by an LC-MS/MS analysis of the composition, and Y represents a peak area value of the alkaline phosphatase calculated by an automatic integration method from a chromatogram obtained by an LC-UV analysis of the composition.	東レ株式会社	JP2019554584	2019/9/25
13	The ultraviolet-absorbing glass	The invention provides UV absorbing glass having very low UV transmittance (TUV) and excellent color rendering property for skin color, that is suitable as a dark gray glass. The invention relates to UV absorbing glass that has a composition within a specified range and a UV transmittance (TUV) defined by ISO 9050 : 2003, a visible light transmittance (TVA) based on a standard A light source, an energy transmittance (TE) defined by JIS R3106 : 1998, and ratios of color rendering indexes R15, R15/R4 defined by ISO 9050 : 1990 and JIS Z8726 : 1990 within specified ranges at a plate thickness of 2.8 mm.	AGC株式会社	JP2018523861	2017/6/8

14	CONSTRUCTION MANAGEMENT METHOD AND CONSTRUCTION METHOD	PROBLEM TO BE SOLVED : To measure a three-dimensional shape of an area where an underwater work machine works underwater from a more suitable angle. SOLUTION : A three-dimensional drawing reflecting unit 102 generates a three-dimensional drawing showing a three-dimensional shape of an entire work area. A work instruction unit 105 instructs an underwater work machine to perform the work according to an operation of an operator. The underwater work machine works underwater according to instructions. A motion information acquisition unit 111 acquires motion information indicating a motion of the underwater work machine. A three-dimensional drawing temporary update unit 112 temporarily updates a shape change of the three-dimensional drawing due to a movement portion indicated by movement information in the three-dimensional drawing based on the acquired movement information. When the shape of the work area changes due to the acquired motion information, a measurement instruction unit 101 instructs an underwater robot 20 to measure the work area. A three-dimensional shape measuring unit 201 measures the three-dimensional shape of the designated work area. The three-dimensional drawing reflecting unit 102 overwrites and updates the temporarily updated portion of the three-dimensional drawing. SELECTED DRAWING : Figure 5 	PENTA OCEAN CONSTRUCTION CO LTD	JP2020009107	2020/1/23

15	The floating marine monitoring	An unmanned, autonomous, self-sustaining and self-repairable floating platform which is positioned at a fixed location within the sea, capable of constantly monitoring, without having to be removed, a specific maritime zone including a sea surface area and the aerial and underwater space pertaining to this sea surface area, the platform comprising telecommunication means adapted to exchange surveillance related information with a Command, Communication and Control center. The platform comprises a deck maintained well above sea surface through a connecting member with an underlying, fully or partially submerged, system of floaters and is equipped with a variety of sensors and surveillance systems such as radar, Li-dar, sonar, electromagnetic, unmanned vehicles (UAVs, UUVs and USVs), active and passive self-protection systems as well as research and rescue equipment. A mast having a substantial height (usually 40-50 m) and equipped with appropriate surveillance devices is mounted and extends vertically upwardly the deck.	イーティーエムイー：ペッパス カイ シナーゲイツ イー イー	JP2020543806	2019/3/4
16	Autonomous underwater robot and control method thereof	PROBLEM TO BE SOLVED： To determine a target path on the basis of a potential map by creating the potential map from a reflection intensity map created by using a scanning sonar.SOLUTION： An autonomous type underwater robot 10 capable of navigating in water in a submerged state includes： a scanning sonar 14 for scanning a prescribed angle range ahead in the navigating direction; a map creator creating a reflection intensity map expressing presence probability of an obstacle on the basis of a measured value by the scanning sonar 14; and a path creator creating a potential map from the reflection intensity map and creating the target path on the basis of the potential map.SELECTED DRAWING： Figure 1	国立大学法人 東京大学	JP2017081711	2017/4/18

17	UNDERWATER STRUCTURE IMAGING APPARATUS AND UNDERWATER STRUCTURE IMAGING METHOD	PROBLEM TO BE SOLVED : To provide an underwater structure imaging device and an underwater structure imaging method capable of imaging a photograph for generating a three dimensional model of an underwater structure with high accuracy. SOLUTION : An underwater structure imaging robot 1 includes : a body 10 having a propulsion mechanism for moving underwater; an illumination unit 20 provided on a side surface 11 of the body 10 for illuminating an inspection object surface S of an underwater structure 100 by emitting light in the moving direction of the body 10; and an imaging unit 30 provided in the body 10 to have a lens 31 face the side surface 11 for capturing an image regarding an inspection object surface S illuminated by the illumination unit 20. SELECTED DRAWING : Figure 1 COPYRIGHT : (C)2021, JPO&INPIT	TOKYO UNIV OF MARINE SCIENCE TECHNOLOGY; TOKYO BAY TRANSVERSE CO LTD	JP2019224875	2019/12/12
18	The ultraviolet-absorbing glass	The purpose of the present invention is to provide an ultraviolet-absorbent glass that is suitable as a dark gray glass, that has a very low ultraviolet transmittance (TUV), and that has excellent color rendering properties for green. The present invention relates to an ultraviolet-absorbent glass in which : the ultraviolet transmittance (TUV) as defined in ISO 9050 : 2003 is 2% or less for a thickness of 2.8 mm; the visible light transmittance (TVA) based on a standard A light source is 10% to 30% inclusive for a thickness of 2.8 mm; the energy transmittance (TE) as defined in JIS R 3106 : 1998 is 30% or less for a thickness of 2.8 mm; a ratio R14/R9 for color rendering indices as defined in ISO 9050 : 1990 and JIS Z 8726 : 1990 is 1.8 or greater; and a ratio R14/R1 is 1.05 or	AGC株式会社	JP2017562877	2017/1/19

19	POWER SOURCE SYSTEM FOR UNDERWATER VEHICLE AND SENSOR	PROBLEM TO BE SOLVED : To provide an underwater vehicle including a power source system capable of environmentally friendly connection instead of a battery driven method. SOLUTION : A power source system for an underwater vehicle 1 includes a hydrogen fuel cell in fluid contact with a metal hydride storage tank on one hand and is in fluid contact with a membrane module 14 capable of extracting water from dissolved oxygen on the other hand. Energy necessary for supporting AUV action and action of its sensor is capable of being provided by combining the composition elements and a presently used cell energy system is replaced to be efficient and sustainable. Weight compensation mechanism is capable of being used for action of a glider. SELECTED DRAWING : Figure 1 COPYRIGHT : (C)2021, JPO&INPIT	HELMHOLTZ ZENTRUM GEESTHACHT ZENTRUM FUER MATERIAL UND KUESTENFORSCHUNG GMBH	JP2020185750	2020/11/6
20	Ultraviolet absorbing glass articles	Provided is an ultraviolet-radiation absorbing glass product, characterized by : having a transmittance of ultraviolet radiation (TUV), as specified by ISO 9050 : 2003, of 2% or less at a plate thickness of 3.5 mm, and transmittance of visible light (TVA) of 8 to 28% inclusive, based on the Standard Illuminant A at a plate thickness of 3.5 mm; and the color of the glass, as denoted by the chromaticity coordinates x, y in the XYZ color coordinate system based on a 2-degree visual field of the Standard Illuminant C as specified by JIS Z8701 : 1999, satisfying the following expressions (1) and (2). (1) $y \geq -0.735 \times x + 0.544$ (2) $y \geq 1.389 \times x - 0.089$	AGC株式会社	JP2017538542	2016/9/9

21	A support system for autonomous unmanned submersible	An AUV support system includes : a surface ship; an underwater station configured to support an AUV which autonomously sails in water; and a cable connecting the surface ship and the underwater station. The cable includes : a first cable portion extending downward from the surface ship through a water surface when the underwater station is suspended in the water by the cable from the surface ship that is in a stop state on the water; a second cable portion extending upward from a lower end portion of the first cable portion when the underwater station is suspended as above; and a third cable portion extending downward from an upper end portion of the second cable portion and connected to the underwater station when the underwater station is suspended as above.	川崎重工業株式会社	JP2020514411	2019/4/17
22	The operation and control of the AUV action plan based on reinforcement learning methods	To provide an AUV action plan and operation control method, which permits action control of an AUV by executing the AUV action plan if a state of emergency occurs when a structure of three layers of a task of an autonomous type unmanned diving machine, that is, a task layer, an action layer and an action layer is defined.SOLUTION : A control command generated to complete an action planned by a robot in the water is defined as an operation. An AUV, when executing a tunnel detection task, executes an action plan in real time using a deep reinforcement learning DQN algorithm, prepares an action network for corresponding deep learning, thereby executing a tunnel detection task plan. Training of an action network of the AUV is performed according to a DDPG method and mapping from a force to a state is obtained as the AUV as an environmental model, thereby achieving operation control of the AUV.SELECTED DRAWING : Figure 1	哈爾浜工程大学	JP2020139299	2020/8/20

23	Underwater robot	To provide an underwater robot which enables autonomous navigation by using GPS.SOLUTION : An underwater robot with a floating body (10) with a GPS antenna and a diving machine body (20) coupling with the floating body (10) to be freely separable positions the floating body (10) on a sea surface directly above the diving machine body (20) by having the floating body (10) and the diving machine body (20) be capable of being integrated by coupling through magnetic force of magnets (12, 22) respectively attached at prescribed positions as well as having the floating body (10) and the diving machine body (20) be separable by having floating force working on the floating body (10) be greater than attraction force of the magnets (11, 12) along with diving of the diving machine body (20) and connecting the separated floating body (10) and the diving machine body (20) through wire (30) with prescribed tension working thereon.SELECTED DRAWING : Figure 1	MINAMI MAMORU	JP2019182518	2019/9/11
24	The unmanned underwater vehicle of the recovery system and method	Embodiments described herein provide a highly reliable UUV recovery systems and methods that utilize multiple independent release mechanisms that can detach a load and allow the UUV to float to the surface of the water. One embodiment is a recovery system for a UUV. The recovery system includes a detachable load that renders the UUV neutrally buoyant in water. The recovery system further includes a plurality of release mechanisms that detach the load to render the UUV positively buoyant in the water. The release mechanisms include a first, second, and third release mechanism. The first release mechanism detaches the load in response to a command signal. The second release mechanism detaches the load in response to the UUV being submerged in the water beyond a threshold time. The third release mechanism detaches the load in response to the UUV exceeding a maximum depth in the water.	The Boeing Company	JP2015124527	2015/6/22

25	Underwater welding system	To provide an underwater welding system which enables easy access to welding portions and easy welding of a predetermined range and achieves high versatility.SOLUTION : An underwater welding system welds an electric protection anode 3, being a metallic component, to a peripheral surface of a monopile 2, being a columnar structure built under water and includes : an underwater welding machine 10 including holding arms 13 which hold an object and welding robot hands 14 in each of which a welding torch 1 is attached to a tip part, the underwater welding machine 10 being movable under water; and a guide device 40 which is sunk along the monopile 2 in water by its self-weight. The underwater welding machine 10 and the guide device 40 may be connected to or separated from each other by a connection mechanism.SELECTED DRAWING : Figure 1	OHBAYASHI CORP	JP2019135997	2019/7/24
26	The ultraviolet shielding glass plate and a glass plate is used for a vehicle window glass	The present invention provides a glass sheet having a good property of blocking transmission of ultraviolet light, having a low to moderate visible transmittance, being relatively thin, being capable of substantially blocking transmission of solar ultraviolet light, and also having a good solar shielding property. The glass sheet of the present invention has a thickness of 1 to 5 mm, a Tuv 380 of 1.5% or less, a Tuv 400 of 2.5% or less, a visible transmittance (YA) of 5 to 40%, and a solar transmittance (TG) of 5 to 45%, and is formed from a glass composition, wherein the glass composition includes : 1.0 to 5.0 wt% T-Fe 2 O 3 ; 1.0 to 5.0 wt% TiO 2 ; and 50 to 600 wt. ppm CoO as coloring components in addition to predetermined base composition, a FeO ratio is 5 to 40%, and the sum of T-Fe 2 O 3 multiplied by 2 and	日本板硝子株式会社	JP2018520937	2017/5/30

27	MOVEMENT DISTANCE MEASUREMENT SYSTEM AND UNDERWATER ROBOT	PROBLEM TO BE SOLVED : To provide a movement distance measurement system which can specify a movement distance using image data under such a situation that it is difficult to acquire position information by a GPS, and an underwater robot including the movement distance measurement system. SOLUTION : A movement distance measurement system for measuring a distance of movement of a mobile machine body including a first imaging device 13 and a second imaging device 14 that can simultaneously image the same reference object comprises : first distance specification means 16 which specifies the distance from the mobile machine body to the reference object as the first distance by imaging the reference object by the first and second imaging devices at the first point; second distance specification means 16 which specifies the distance from the mobile machine body to the reference object as the second distance by imaging the reference object that moves to the second point different from the first point by the first and second imaging devices; and movement distance specification means 16 which specifies the movement distance of the mobile machine body from the difference between the first distance and the second distance. SELECTED DRAWING : Figure 2 	MINAMI MAMORU	JP2019132280	2019/6/27

28	RECOVERY SYSTEM FOR UNDERWATER STRUCTURE AND RECOVERY METHOD FOR UNDERWATER STRUCTURE	PROBLEM TO BE SOLVED : To provide a recovery system for an underwater structure with easy downsizing of a recovery device and a recovery method for the underwater structure. SOLUTION : A recovery system 1 for recovering an AUV101 on the water surface or underwater includes : a recovery frame 5 towed to a recovery vessel 3 by a recovery frame tow rope 13; a recovery hook 7 towed by the recovery hook towing rope 15 to the recovery vessel 3 for recovering the AUV 101 by hooking a cable 103 let out underwater from the AUV 101; and a holding unit 9 provided on the recovery frame 5 for holding an open end of the recovery hook 7 to be capable of being attached/detached in front of towing direction, and the recovery system 1 is characterized by having the holding unit 9 composed so that the recovery hook 7 is detached from the recovery frame 5 by tension applied to the recovery hook 7 by a cable 103 when the recovery hook 7 hooks the cable 103. SELECTED DRAWING : Figure 1	MITSUI E S ZOSEN CO LTD; JAPAN AGENCY FOR MARINE EARTH SCIENCE TECHNOLOGY; UNIV OF TOKYO; KYUSHU INSTITUTE OF TECHNOLOGY	JP2019117002	2019/6/25
29	The heat and UV-absorbing glass plate, and a manufacturing method thereof	The present invention aims to provide a heat-ray- and ultraviolet-absorbing glass plate having low solar transmittance and ultraviolet transmittance, having a high visible light transmittance, and containing a small amount of bubbles. The present invention relates to a heat-ray- and ultraviolet-absorbing glass plate that is a soda lime glass having a specific composition, having a mass proportion of divalent iron to the total iron being 50% or more, and having, as a value calculated as 4 mm thickness of the glass plate, a visible light transmittance Tv of 66% or more, a solar transmittance Te of 65% or less, a ratio Tv/Te of Tv and Te of 1.3 or more, and an ultraviolet transmittance Tuv of 50% or	AGC株式会社	JP2017514140	2016/4/19

30	For an autonomous vehicle [...] and method thereof	A method and system for facilitating navigation of an autonomous underwater vehicle (AUV) about an egress path that mirrors an ingress path. Complex return data during an ingress cycle are obtained and a corresponding complex image of the seabed along the ingress cycle is generated. Complex return data during an egress cycle are also obtained and a plurality of corresponding complex local images of the seabed along the egress cycle can be generated. The complex local images are compared to the complex ingress image to identify a normalized cross-correlation coefficient (NCCC). A maximum NCCC indicates that a position of the AUV in the along-track direction has been found. Successive local complex images from the egress cycle can be compared against the complex image from the ingress cycle as the AUV moves along the egress path to identify successive NCCCs, and monitored overtime to determine if the successive NCCCs are increasing or decreasing as the AUV moves along the egress path. The path of the AUV can be corrected to mirror the egress path to the ingress path based on the change of the NCCCs as compared to maximum NCCC.	レイセオン カンパニー	JP2018527886	2016/10/17
31	TSUNAMI DETECTION SYSTEM WITH DATA STORAGE DEVICE IN AUTONOMOUS UNDERWATER VEHICLE	PROBLEM TO BE SOLVED : To provide an underwater tsunami wave detection method for detecting a trigger event by using at least one disruption among a plurality of hard disk drives (HDDs). SOLUTION : An underwater tsunami detection method includes detecting that one of a plurality of respectively different HDDs is included in one of a plurality of respectively different autonomous underwater vehicle (AUVs). Each time and location of at least one HDD are recorded about a trigger event. The size, strength and direction of a Tsunami caused by the trigger event are determined on the basis of at least one of the HDD disruption, time, and location of at least one HDD of the plurality of HDDs. Information on the tsunami is transmitted to a monitoring station. SELECTED DRAWING : Figure 4 COPYRIGHT : (C)2021, JPO&INPIT	Seagate Technology LLC	JP2020081260	2020/5/1

32	DRUG, ETC. ADMINISTRATION DEVICE, ACTUATION METHOD THEREOF, AND SUPPORTER	PROBLEM TO BE SOLVED : To provide a drug, etc. administration device penetrating a drug, etc., applied to or coming into contact with a skin surface into skin cells by applying an electric pulse to the skin. SOLUTION : A drug administration device for percutaneously administering a drug, etc., applied to a skin surface by an electroporation method, comprises a waveform generator for generating electric pulses with a prescribed waveform pattern, and electrodes for applying the electric pulses with the waveform pattern to the skin. The waveform generator generates a two-step sawtooth waveform pattern that repeats, continued from a rising slope Tu rising at a slow rate from a minimum voltage V0 to a maximum voltage Va, a falling slope part Td falling at a steep angle from the maximum voltage Va to the minimum voltage V0, the sawtooth waveform pattern having one notch part VN temporarily dropping a voltage into a V-notch shape at an intermediate part of the rising slope Tu. SELECTED DRAWING : Figure 5	MIT TECHNOLOGY LTD	JP2020076517	2020/4/23
33	The unmanned underwater transportation means	An unmanned underwater vehicle (UUV) is disclosed. The UUV includes a body and a propulsion system for propelling and orienting the UUV. The propulsion system has an inlet formed in the body that facilitates fluid being drawn into the UUV from outside the body. The propulsion system also has a duct in fluid communication with the inlet. The duct is adapted to direct the fluid along a flow path. The propulsion system further includes a pump operable with the duct to increase the velocity of the fluid. In addition, the propulsion system includes a nozzle in fluid communication with the duct to receive the fluid at the increased velocity. The nozzle is supported about a side of the body and adapted to moveably redirect fluid out of the UUV. The propulsion system provides multi-axis control of the UUV.	レイセオン カンパニー	JP2015540828	2013/11/1

34	The software robot actuator and improvements to the method for manufacturing the same	Exemplary embodiments relate to various improvements in soft robotic actuators, and techniques for manufacturing the improvements. For example, techniques for manufacturing a rigidizing layer for reinforcing a soft robotic actuator is provided. In another embodiment, a soft robotic actuator having integrated sensors is described. A flexible electroadhesive pad for achieving a conformal grip is also described. Still further, exemplary embodiments provide hydraulically-actuated soft robotic grippers, which allows for a reduction in the size of the actuation system and improved underwater operation.	ソフト ロボティクス インコーポレイテッド	JP2017549485	2016/3/23
35	ROV propellers tail cover, ROV propellers and ROV	Disclosed is an ROV propeller tailhood comprising a body a control circuit board, a heat block, a thermal silica gel and long rod screws. The heat sink is fixed to the bottom of the control circuit board and disposed between the control circuit board and the body. The heat sink and the body are provided respectively with apertures that are matching with the long rod screws for fixing the heat sink to the body. The cooling silica gel is provided between the control circuit board and the	Tianjin Deepfar Ocean Technology Co Ltd	JP2018536821	2017/10/17
36	The water level sensing device, underwater, and a water level detection method	PROBLEM TO BE SOLVED : To allow an underwater sailing body to be controlled with high followability to the undulation of a water bottom.SOLUTION : An FLS provided on a UUV 1 transmits a transmission wave beam in a transmission wave angular range including directly below and front downward of the UUV 1 relative to the travel direction of the UUV 1, and receives a reflection wave about which the transmission wave beam was reflected by a sea bottom as a plurality of reception wave beams with different directions. Then, on the basis of the received reflection wave, it calculates sea bottom altitude in front of the UUV 1. The UUV 1 autonomously navigates by feed-forward control on the basis of the calculated front sea bottom altitude.SELECTED DRAWING : Figure 6	三菱重工業株式会社	JP2016042112	2016/3/4

37	Device and method for measuring leakage leakage	PROBLEM TO BE SOLVED : To provide a water leak measuring device that can accurately detect water leaks occurring not only through a horizontal face but even through a curved or upright face and moreover measure the quantities of leaking water, and a water leak measuring method using the device.SOLUTION : An underwater robot 10 is equipped with a water leak measuring device 11 having a measuring tube so extending into the body of the device as to come into contact with or approach a measurable face and to cause water to flow toward the measurable face in order to measure the leaking position and/or the leaking quantity in the measurable face of an underwater structure, and a flowmeter 12 arranged within the measuring tube. The measuring tube has a tip part 11b coming into contact with or approaching the measurable face, a measuring part 11c in which the flowmeter 12 is arranged and a water inlet part 11d into which water comes so as to flow from the measuring part toward the tip part.SELECTED DRAWING :	五洋建設株式会社	JP2016152745	2016/8/3
38	Underwater manipulator arm robot	An underwater manipulator arm robot comprises : a plurality of links that are connected to one another by joint modules for generating a flexural motion of the robot; multiple thrust devices located at different points along the length of the robot for applying thrust to the robot for propulsion and/or guidance; and at least one tool, or at least one connection point for a tool, attached to the robot; wherein the flexural motion and/or thrust devices enable movement of the robot and control of the orientation and/or location of the tool.	エールメ アーエス	JP2017540553	2016/1/13

39	Surface cleaning and inspecting integrated underwater vehicle	Integrated probes and probe systems suitable for attachment to a robotic arm of a remotely operated vehicle are disclosed. The probes and probe systems serve to perform cleaning operations and both cathodic protection (CP) voltage measurements and ultrasonic testing (UT) thickness measurements at an underwater surface. The cathodic protection measurement system includes one or more electrically conductive legs that extend outwardly from the probe. These legs are arranged about a cleaning tool and an ultrasonic sensor. When the integrated probe contacts the underwater surface, at least one leg contacts the surface, thereby providing a desired distance between the probe and the underwater surface for efficient cleaning and UT inspection. The underwater surface can be cleaned and CP and UT measurements can all be performed using a single, integrated probed during a single operation, without having to reposition the probe.	サウジ アラビアン オイル カンパニー	JP2019571315	2018/7/5
40	The adapter, electronic device and method for conveying a	The object of the invention is to eliminate problems caused by detaching an optical cable from an electronic device such as a ROV.Adapter 5 includes waterproof container 51, photoelectric conversion device 52 housed in waterproof container 51 and connected to optical cable 2, and attachment structure 57 provided at waterproof container 51, for use in detachably attaching adapter 5 to ROV 1.	株式会社FullDepth	JP2017122158	2017/6/22
41	Ultraviolet absorbing glass articles	To provide an ultraviolet absorbing glass article having a very low ultraviolet transmittance (TUV) suitable as privacy glass for vehicles. An ultraviolet absorbing glass article comprising, as a glass matrix composition as represented by mass% based on oxides, from 66 to 75% of SiO 2 , from 10 to 20% of Na 2 O, from 5 to 15% of CaO, from 0 to 6% of MgO, from 0 to 5% of Al 2 O 3 , from 0 to 5% of K 2 O, from 0.13 to 0.9% of FeO, at least 0.8% and less than 2.4% of total iron as represented by Fe 2 O 3 , and more than 1% and at most 5% of TiO 2 , containing from 100 to 500 mass ppm of CoO, from 0 to 70 mass ppm of Se and from 0 to 800 mass ppm of Cr 2 O 3 in a total content of CoO, Se and Cr 2 O 3 of less than 0.1 mass% based on the total content of components in the glass matrix composition, and has an ultraviolet transmittance (TUV) (ISO9050 : 2003) of at most 2% at a thickness of 3.5 mm.	AGC株式会社	JP2015552549	2014/12/12

42	ALKALINE PHOSPHATASE COMPOSITION, METHOD FOR PRODUCING DEPHOSPHORYLATED NUCLEIC ACID AND LABELED NUCLEIC ACID	PROBLEM TO BE SOLVED : To provide a high-quality composition containing alkaline phosphatase, and to provide a method for producing a dephosphorylated nucleic acid and a method for producing a labeled nucleic acid using the composition. SOLUTION : There is provided a composition containing alkaline phosphatase and a peptide fragment group (A) consisting of two or more peptide fragments comprising consecutive 5 to 50 amino acid residues selected from positions 71 to 130 of the amino acid sequence of SEQ ID NO : 4. A ratio of the content of the peptide fragment group (A) to the content of the alkaline phosphatase is the following formula (A) : (XA/Y)×100≤5.0000. In the formula, XA is a peak area value of the peptide fragment group (A), which is calculated by an automatic integration method from an extracted ion chromatogram obtained by LC-MS/MS analysis of the composition, Y is a peak area value of the alkaline phosphatase calculated by the automatic integration method from the chromatogram obtained by an LC-UV analysis of the composition. SELECTED DRAWING : None	TORAY IND INC	JP2019174493	2019/9/25
43	From the ship is equipped with an autonomous unmanned submersible system and method	Systems and methods for adding buoyancy to an object are described herein. A buoyant material may be enclosed inside a flexible container, heated, and inserted into a free flooded cavity inside the object. The flexible container may then be formed to the shape of the cavity. After the flexible container is formed to the shape of the cavity, the flexible container may be cooled. The flexible container may hold a pre-determined amount of the syntactic material that provides a fixed amount of buoyancy. According to another aspect, systems and methods for packing a vehicle are described herein. In some embodiments, a buoyant material may be molded into the shape of a hull of a vehicle, and a plurality of cutouts may be extracted from the buoyant materials which are specifically designed to incorporate one or	Hadar Inc513278585	JP2016503123	2014/3/14

44	ALKALINE PHOSPHATASE COMPOSITIONS AND METHODS FOR PRODUCING DEPHOSPHORYLATED NUCLEIC ACIDS AND LABELLED NUCLEIC ACIDS	PROBLEM TO BE SOLVED : To provide high quality alkaline phosphatase compositions, methods for producing dephosphorylated nucleic acids and labelled nucleic acids using the compositions. SOLUTION : Disclosed is a composition comprising an alkaline phosphatase and a group of peptide fragment (A) comprised of one or more peptide fragments selected from specific amino acid sequences of consecutive 5-20 amino acids, where the content ratio of the peptide fragment group (A) to the alkaline phosphatase satisfies the following formula : (XA/Y)×100≤0.6000 where XA represents the peak area value of the peptide fragment group (A) calculated by an automatic integral technique from a chromatogram obtained by LC-MS/MS analysis of the composition, and Y represents the peak area value of the alkaline phosphatase calculated by an automatic integral technique from a chromatogram obtained by LC-UV analysis of the composition. SELECTED DRAWING : None	TORAY IND INC	JP2019174510	2019/9/25
45	ALKALINE PHOSPHATASE COMPOSITIONS AND METHODS FOR PRODUCING DEPHOSPHORYLATED NUCLEIC ACIDS AND LABELLED NUCLEIC ACIDS	PROBLEM TO BE SOLVED : To provide high quality alkaline phosphatase compositions, methods for producing dephosphorylated nucleic acids and labelled nucleic acids using the compositions. SOLUTION : Disclosed is a composition comprising an alkaline phosphatase and a group of peptide fragments having specific amino acid sequences of consecutive 5-20 amino acids, where the content ratio of the peptide fragment group to the alkaline phosphatase satisfies the following formula : (XA/Y)×100≤0.1800 (A) where XA represents the peak area value of the peptide fragment group calculated by an automatic integral technique from an extracted chromatogram obtained by LC-MS/MS analysis of the composition, and Y represents the peak area value of the alkaline phosphatase calculated by an automatic integral technique from an extracted chromatogram obtained by LC-UV analysis of the composition. SELECTED DRAWING : None	TORAY IND INC	JP2019174527	2019/9/25

46	Robot system	The present invention provides a robotic locomotive device (1) that is capable of driving itself forwards and backwards, anchoring and steering itself whilst inside a tubular structure (200), for example, the human colon, or any structure comprising two opposing walls (202, 204). In this respect, the device is made up of two or three segments (102, 104, 106) covered in an elastic material and driven by an internal actuating mechanism. All of the segments (102, 104, 106) have a concertina configuration that enable a shortening and lengthening motion. As well as contracting and extending in length, at least one of the end segments (102, 106) is capable of bending at an angle away from the longitudinal axis such that it becomes wedged or jammed between the walls (202, 204) of the tubular structure (200). That is, the end segments (102, 106) are capable of both a bending action and a contracting and extending action. The device (1) moves by alternately jamming a segment (102, 104, 106) between the walls (202, 204) of the tubular structure (200), and then contracting or extending the segments (102, 104, 106) to inch the device (1) forward with a more effective locomotive action. As such, the present invention provides a simplified design that is more robust to harsh or unclean environments, whilst still maintaining the level of performance required from such a	キングス カレッジ ロンドン	JP2019546344	2018/2/26

47	Underwater sediment removal device	PROBLEM TO BE SOLVED : To provide a device for removing underwater sediment having no possibility of environment pollution due to oil leakage from a pump or a motor.SOLUTION : A device for removing underwater sediment comprises a self-propelled robot 3 that can be self-propelled on the water bottom with a running mechanism 2, a control part that controls the self-propelled robot remotely, a sand elimination hose 5 connected to the self-propelled robot, a hydraulic pump 6 installed above water or on the land, and a working fluid force-feed hose 7 and a working fluid returning hose 8 that are connected to the hydraulic pump and the self-propelled robot, and the self-propelled robot comprises a sand collection screw 9 that collects an accumulation on the water bottom, a sand elimination pump 10 for sucking a collected accumulation and sending to the sand elimination hose, a hydraulic motor for screw that is connected with the working fluid force-feed hose and the working fluid returning hose and that rotationally drives the sand collection screw, and a hydraulic motor for running that drives the running mechanism.SELECTED DRAWING :	株式会社エコアドバンス; 東京パワーテクノロジー株式会社	JP2016138209	2016/7/13
48	For underwater robot non-contact power supply device	PROBLEM TO BE SOLVED : To provide a non-contact power feeding device for underwater robot which has an easy and simple structure, achieves reduction in weight and cost, and improves reliability as an apparatus, and can freely float, stop, position, keep the position, and feed power anywhere when an underwater robot is positioned in a cylindrical hole of a power source base in power feeding and a power receiving coil is positioned in a magnetic field position of the power transmission coil.SOLUTION : A non-contact power feeding device 24 feeds power to an underwater robot, in other words, a power feeding coil 28 on an AUV 1 side from a power transmission coil 26 on the side of a power source base 2 based on a mutual induction action of electromagnetic induction. The power transmission coil 26 forms a loop shape having a large diameter, and the power receiving coil 28 forms a loop shape having a diameter smaller than that of the power transmission coil 26. The power receiving coil 28 is correspondingly positioned in an inner/outer relationship of the power transmission coil 26, and stops in a magnetic field position of the power transmission coil 26 during power feeding.SELECTED DRAWING : Figure 1	昭和飛行機工業株式会社	JP2016031856	2016/2/23

49	Imaging device	An underwater robot (10) that comprises a front case (43), an imaging unit (13a), and a spring (44). The front case (43) has a transparent plate (42) that is arranged to face an inspected object during inspections and that transmits visible light. The imaging unit (13a) : is arranged such that a first end thereof that is arranged on the inspected object side during inspections contacts an inside surface of the transparent plate (42); and inspects the inspected object across the transparent plate (42). The spring (44) applies pressing force that presses the imaging unit (13a) toward the transparent plate (42).	パナソニックIPマネジメント株式会社	JP2018501403	2016/9/30
50	Collaborative environment of the mobile robot	A two-part, selectively dockable robotic system having counterbalanced stabilization during performance of an operation on an underwater target structure is provided. The robotic system includes a first underwater robotic vehicle that is sized and shaped to at least partially surround the underwater target structure. A second underwater robotic vehicle is sized and shaped to at least partially surround the underwater target structure and selectively dock with the first underwater robotic vehicle. The first and second robotic vehicles include complimentary docking mechanisms that permit the vehicles to selectively couple to each other with the underwater target structure disposed at least partially therebetween. One robot includes a tool that can act upon the target structure and the other robot includes a stabilization module that can act upon the target structure in an opposite manner in order to	サウジ アラビアン オイル カンパニー	JP2019515589	2017/9/12

51	UNDERWATER WIRELESS POWER TRANSFER	PROBLEM TO BE SOLVED : To propose an underwater wireless power transfer that, first, includes a coupler whose downsizing and weight saving are implemented and, second, the implementation is simply and easily achieved. SOLUTION : An underwater wireless power transfer 18 supplies power from a power transmission side circuit 24 to a power reception side circuit 25 in the water (in the sea) in a non-contact manner on the basis of high frequency electric field coupling. Namely, in supplying power, a power transmission electrode 26 of the power transmission side circuit 24 and a power reception electrode 27 of the power reception side circuit 25 are positioned with a water gap G so as to correspond to each other in a non-contact manner, forming electrostatic capacitors C1, C2 taking water at the water gap G as a dielectric substance. The transmission side circuit 24 is provided on the side of an underwater power supply base 2; the power reception side circuit 25 is provided on the side of an underwater robot such as an AUV 1. The power transmission electrode 26 and the power reception electrode 27 have tabular shapes corresponding to each other. In supplying power, the power transmission electrode 26 and the power reception electrode 27 are positioned so as to correspond to each other in inside/outside relation; and form a power transmission coupler 28 and power reception coupler 29, respectively. SELECTED DRAWING : Figure 1	SHOWA AIRCRAFT IND CO LTD	JP2016164359	2016/8/25

52	The magnetic coupling integrated ultrasonic testing and cathodic corrosion probe measurements	This application discloses magnetically coupled integrated probes and probe systems, attachable to the robotic arms of a remotely operated vehicle to perform both cathodic protection (CP) voltage measurements and ultrasonic testing (UT) thickness measurements at an underwater surface. The integrated probe system can include a spring for coupling to an ROV end effector. An ultrasonic probe is disposed within and extends from the sleeve housing. A magnetic carrier, flux concentrator, and gimbal surround a portion of the ultrasonic probe, and one or more electrically conductive legs extend from the front surface of the gimbal to function as a CP probe. The legs are arranged about the ultrasonic probe, which has a flexible membrane exposed at the front surface of the gimbal, such that during inspection, at least one leg contacts the surface and the ultrasonic probe is sufficiently proximate to provide substantially simultaneous CP and UT measurements.	サウジ アラビアン オイル カンパニー	JP2019505069	2017/9/8
53	Underwater craft and method	A method for performing operations using a water environment robotic system on a target section of pipeline located in an underwater environment is provided. The method includes the steps of deploying the underwater robotic vehicle into the water and visually inspecting the underwater environment to locate the pipeline and its plurality of weld joints. A cleaning operation is performed at one of the plurality of weld joints using the underwater robotic vehicle. The robotic vehicle can land on the sea floor and deploy a robotic arm to inspect the cleaned weld joint. The underwater can then swim to a next weld joint and land and perform cleaning and inspection operations, which can be repeated until all inspection sites are inspected.	サウジ アラビアン オイル カンパニー	JP2019515412	2017/9/14

54	WORKING METHOD USING AUTONOMOUS UNDERWATER VEHICLE	PROBLEM TO BE SOLVED : To provide a working method using an AUV (Autonomous Underwater Vehicle) capable of navigating the AUV with accuracy toward the vicinity of a work interruption position of a work object from a return destination. SOLUTION : A working method using an AUV includes the steps of : working on a work object with a work device included in the AUV while navigating the AUV along the work object; throwing down a transponder and sinking it to the water bottom; navigating the AUV toward a return destination; and navigating the AUV to the vicinity of a work interruption position where a work is interrupted regarding the work object from the return destination on the basis of information obtained from acoustic positioning using the transponder sunk to the water bottom and restarting the work regarding the work object. SELECTED DRAWING : Figure 1 COPYRIGHT : (C)2020, JPO&INPIT	KAWASAKI HEAVY IND LTD	JP2018085821	2018/4/26
55	The integral ultrasonic testing and cathodic protection of a measuring probe	This application discloses integrated probes and probe systems, which can be attached to the robotic arms of a remotely operated vehicle to perform both cathodic protection (CP) voltage measurements and ultrasonic testing (UT) thickness measurements at an underwater surface. In some embodiments, the integrated probe system couples an inner and outer gimbal together such that one or more electrically conductive legs pass from the outer gimbal through the inner gimbal. These legs are arranged about an ultrasonic sensor which extends from the front surface of the inner gimbal. When the integrated probe contacts the underwater surface, both the ultrasonic sensor and at least one leg contact the surface, thereby providing substantially simultaneous CP and UT measurements.	サウジ アラビアン オイル カンパニー	JP2019514790	2017/4/26

56	AUTONOMOUS UNMANNED UNDERWATER VEHICLE	PROBLEM TO BE SOLVED : To provide an AUV capable of inspecting an inspection object with high accuracy while suppressing consumption of power in an integrated battery. SOLUTION : An AUV includes : an underwater vehicle body cruising along an inspection object positioned in water or on water bottom; an arm extending from the underwater vehicle body; a tool unit for inspection having a contact unit for making contact with the inspection object and an inspection apparatus for inspecting the inspection object; and a passive joint provided in between the arm and the tool unit for inspection allowing passive relative rotation of the tool unit for inspection to the arm around at least one axis. SELECTED DRAWING : Figure 3 COPYRIGHT : (C)2020, JPO&INPIT	KAWASAKI HEAVY IND LTD	JP2018075748	2018/4/10
57	Ultraviolet absorbing glass articles	The present invention relates to an ultraviolet-absorbing glass article containing, as represented by mass % based on oxides, as a glass matrix composition : SiO2 : 66 to 75%, Na2O : 10 to 20%, CaO : 5 to 15%, MgO : 0 to 6%, Al2O3 : 0 to 5%, K2O : 0 to 5%, FeO : 0.2 to 1.2%, total iron as represented by Fe2O3 : 2.4 to 4%, and TiO2 : more than 0% and 1% or less, containing from 50 to 400 mass ppm of CoO, containing from 0 to 70 mass ppm of Se, containing from 0 to 800 mass ppm of Cr2O3, having a total content of CoO, Se and Cr2O3 of less than 0.1 mass %, and having an ultraviolet transmittance (TUV) (ISO9050 : 2003) of 2% or less at a thickness of 3.5 mm.	AGC株式会社	JP2016547410	2015/9/3
58	The correction of the tooth profile of the gear cutting tool used for machining ROV propellers	Cutters for ROV propeller gear modification comprising cut holder, a hob provided on the cut holder and comprising a plurality of continuous linearly arranged hobbings. Each hobbing has a tooth depth of 1.65cm including a tooth dedendum of 0.975cm and a tooth addendum of 0.675cm, a tooth thickness of 0.946cm, an addendum circle radius of 0.324cm, a dedendum circle radius of 0.163cm and a dextrorotatory tooth thread with a lead angle of 1°7'18". Each two adjacent teeth have a pitch of 1.885cm. The hob has a modulus of 0.6, 12 slots, a pressure angle of 20°. A blade groove has a spiral angle of 0° with its spiral direction being a straight flute. A base circle radius of the hob is 0.823cm and a base circle lead angle is 20°1'49". The modified gear of ROV propeller is obtained by the hob processing.	Tianjin Deepfar Ocean Technology Co Ltd	JP2018536411	2017/10/17

59	REALTIME UNDERWATER SURVEY USING SUBMERGIBLE ROBOT FOR WIDE-AREA UNDERWATER SURVEY VIA HAPS	PROBLEM TO BE SOLVED : To provide a system capable of high-precision underwater survey over wide areas such as seas. SOLUTION : The system comprises : a plurality of buoys; a plurality of underwater mobile bodies; a sky-hoverable wireless relay device wirelessly communicatable with the plurality of buoys; and an information processing device. The buoys each include a wired communication unit for communication via an underwater cable and a wireless communication unit for wireless communication with the sky-hoverable wireless relay device. The underwater mobile bodies each include : a drive unit coupled to the buoy via the underwater cable to move underwater under autonomous or external control; a wired communication unit for communication via the underwater cable; and an information acquisition unit for acquiring underwater information. The information processing device performs information processing for underwater survey on the basis of the underwater information acquired by the plurality of underwater mobile bodies. SELECTED DRAWING : Figure 1	HAPSMOBILE INC	JP2018056015	2018/3/23
60	AUTONOMOUS DISTRIBUTED CONTROL OF SUBMERGIBLE ROBOT FOR WIDE-AREA UNDERWATER SURVEY VIA HAPS	PROBLEM TO BE SOLVED : To provide a system capable of performing underwater surveying over wide areas, such as seas, at low cost in a short time. SOLUTION : The system comprises : a plurality of buoys; a plurality of underwater mobile bodies; and a sky-hoverable wireless relay device wirelessly communicatable with the plurality of buoys. The buoys each include a wired communication unit for communication via an underwater cable and a wireless communication unit for wireless communication with the sky-hoverable wireless relay device. The underwater mobile bodies each include : a drive unit coupled to the buoy via the underwater cable to move underwater under autonomous or external control; a wired communication unit for communication via the underwater cable; and an information acquisition unit for acquiring underwater information. SELECTED DRAWING : Figure 1	HAPSMOBILE INC	JP2018056044	2018/3/23

61	GLASS LAMINATE	PROBLEM TO BE SOLVED : To provide a glass laminate for vehicles having a high ultraviolet-shielding function. SOLUTION : A glass laminate according to the present invention is attached to a vehicle, the glass laminate being provided with : a glass body including at least one glass plate; and an ultraviolet-shielding film disposed on the at least one glass plate, wherein the glass body has a Tuv satisfying 400≤50%, and the glass laminate has a light transmittance of 10% or less at a wavelength of 400 nm and further has a Tuv satisfying 400≤2.0%. SELECTED DRAWING : Figure 1	NIPPON SHEET GLASS CO LTD	JP2018040264	2018/3/6
62	MULTI-LEGGED WALKING ROBOT AND SUBSEA MINING BASE EQUIPPED WITH THE SAME	PROBLEM TO BE SOLVED : To provide a multi-legged walking robot capable of stable spontaneous walking even on rough terrain. SOLUTION : A mining station 20 that is a multi-legged walking robot includes a platform 21 having upper and lower frames and an intermediate frame disposed therebetween, and a plurality of support legs 26 provided on the upper and lower frames, respectively. Each support leg 26 is configured to be capable of relative slide movement individually in a Z direction via a vertical movement mechanism. A foot 60 equipped with a grounding detection sensor for detecting the grounding state is provided at the lower end of each support leg 26. An intermediate frame 21M and an upper frame 21X are relatively slidable in one direction via a horizontal movement mechanism. The intermediate frame 21M and a lower frame 21Y can be slid relative to each other in a direction orthogonal to the one direction via the horizontal movement mechanism. SELECTED DRAWING : Figure 3	FURUKAWA CO LTD	JP2018023144	2018/2/13

63	UNDERSEA POWER FEEDING DEVICE	PROBLEM TO BE SOLVED : To provide an undersea power feeding device capable of charging an AUV (autonomous unmanned underwater vehicle) in order to improve convenience during a long-term operation. SOLUTION : An undersea power feeding device in a charging system 100 including an autonomous unmanned undersea vehicle 40 for searching under the sea and an underwater power feeding device 30 carried by another device to a periphery of the autonomous unmanned underwater vehicle to feed electric power to the autonomous unmanned underwater vehicle is comprised of : a first power transmission unit for supplying electric power to the autonomous type unmanned underwater vehicle; and a first transmission/reception unit that transmits an action plan including a command to the autonomous unmanned underwater vehicle to the autonomous unmanned underwater vehicle, and receives a search result indicating a result of searching according to the command from the autonomous unmanned underwater vehicle, wherein the first transmission/reception unit is provided at a position where a communication with the autonomous unmanned underwater vehicle is possible when the first power transmission unit can supply electric power to the autonomous unmanned underwater vehicle. SELECTED DRAWING : Figure 1	JAPAN AGENCY FOR MARINE EARTH SCIENCE TECHNOLOGY	JP2018000330	2018/1/4
64	ULTRAVIOLET ABSORBING GLASS	PROBLEM TO BE SOLVED : To provide an ultraviolet absorbing glass suitable as a dark gray glass, having an extremely low ultraviolet transmittance (TUV) and having an excellent color rendering property for green and blue.SOLUTION : The ultraviolet absorbing glass has an ultraviolet transmittance (TUV) as defined in ISO 9050 : 2003 of 2% or less for a thickness of 2.8 mm, a visible light transmittance (TVA), based on a standard A light source, of 10% or more and 30% or less for a thickness of 2.8 mm, an energy transmittance (TE) as defined in JIS R 3106 : 1998 of 45% or less for a thickness of 2.8 mm, and a sum (R11+R12) of color rendering indices R11 and R12 defined in ISO 9050 : 1990 and JIS Z 8726 : 1990 of 166 or more.SELECTED DRAWING : NoneCOPYRIGHT : (C)2019, JPO&INPIT	AGC INC	JP2016089175	2016/4/27

65	The power system and underwater robot used for underwater robot	A power system used for an underwater robot and an underwater robot, wherein the power system comprises : a vertical suspension propeller assembly (10) including a left vertical suspension propeller assembly (11) and a right vertical suspension propeller assembly (12), the left vertical suspension propeller assembly (11) and the right vertical suspension propeller assembly (12) being arranged on two sides of the body of the underwater robot symmetrically with respect to the central axis of the underwater robot, the left vertical suspension propeller assembly (11) and the right vertical suspension propeller assembly (12) each comprising at least one vertical suspension propeller and the number of vertical suspension propellers included being equal; and a horizontal suspension propeller assembly (20) including a left horizontal suspension propeller assembly (21) and a right horizontal suspension propeller assembly (22), the left horizontal suspension propeller assembly (21) and the right horizontal suspension propeller assembly (22) being arranged on two sides of a tail portion of the underwater robot symmetrically with respect to the central axis of the underwater robot, the left horizontal suspension propeller assembly (21) and the right horizontal suspension propeller assembly (22) each comprising at least one horizontal suspension propeller and the number of horizontal suspension propellers included being equal.	Tianjin Deepfar Ocean Technology Co Ltd	JP2018600002U	2017/1/5
66	The stress joint or flex joint is lifted above the water surface of tapered SCR method and device	A removable riser hang-off connector is equipped with a flexible element that, in one embodiment, comprises rubber-encapsulated steel plates. The connector is designed for attachment to a hang-off collar provided on a steel catenary riser below the tapered stress joint or flex joint. Connection of the removable riser hang-off connector may be made by an ROV. With the removable riser hang-off connector attached, the tapered stress joint and/or flex joint may be raised out of the water (for inspection, maintenance, repair or replacement) by lifting the upper end of the SCR out of its porch receptacle with a chain jack (or other lifting device) and inserting the removable riser hang-off connector into the porch receptacle. This temporarily supports the SCR in an elevated state with the tapered stress joint and/or flex joint above the surface of the water.	シングル ブイ ムーリングス インコーポレイテッド	JP2018528003	2016/10/24

67	UNDERWATER ROBOT CONTROL SYSTEM AND UNDERWATER ROBOT CONTROL METHOD	PROBLEM TO BE SOLVED : To provide an underwater robot control system which enables remote control easily even if an operator cannot watch an underwater robot in water. SOLUTION : An underwater robot control system of a remote control type includes an underwater robot 1b that can transmit a sound wave and has a promotion mechanism, three or more communication buoys 4 which can receive the sound wave that the underwater robot 1b has transmitted, can transmit reception time that has received the sound wave, and float on the surface, position detection means which detects each position of the communication buoys 4, a communication part 21 which receives the reception time that the communication buoys 4 has transmitted, and a position determination part 231 which determines a position of the underwater robot 1b by using a difference between the transmission time of the sound wave and the reception time that each of the communication buoys 4 has received the sound wave, and each position of the communication buoys 4. SELECTED DRAWING : Figure 4	EBARA CORP	JP2017113959	2017/6/9
68	Robot for underwater intelligent tracking	The real item is a robot with advanced intelligence and is used as an intelligent tracking system in water, to track and capture the goal of emitting light beacons like a watch worn by a swimmer.	Tianjin Deepfar Ocean Technology Co Ltd; 深之藍海洋科	JPD2018008928	2018/4/24
69	For adaptation of the liquid tank having an over-pressure safety characteristics such that the vent valve	The invention relates to a vent valve (1) for a liquid tank comprising a chamber (10) incorporating : - means (22, 24, 26) for providing function of automatically closing the valve if the tank turns over, or "ROV" function; - means (44, 46) for providing an overfill prevention function preventing the tank from being filled beyond a predetermined level, or "ISR" function; - means (28, 30, 32) for allowing gases to escape to the external atmosphere in the event of an overpressure exceeding a predetermined threshold, or "OPR" function; - means (36, 38, 40, 42) to allow air to enter the tank when the pressure obtaining within the tank is below atmospheric pressure, or "bypass" function.	INERGY AUTOMOTIVE SYSTEMS RESEARCH (SA)	JP2015533751	2013/9/30

70	Electrical cable	An electric cable includes at least one electric wire, and a plurality of string-shaped bodies each extending in a longitudinal direction of the electric cable and twisting with one another around the at least one electric wire being a core. The plurality of string-shaped bodies has connection parts twisting with one another excluding the at least one electric wire. The connection parts are connected to a frame of an underwater robot.	パナソニックIPマネジメント株式会社	JP2016239016	2016/12/9
71	Remote unattended probe for coring device	PROBLEM TO BE SOLVED : To provide a core ring device for ROV capable of surely collecting a core from a seabed in normal time, and capable of recovering the ROV and the core ring device in abnormal time.SOLUTION : A core ring device 12 installed in ROV and collecting a core from a seabed, is provided with a drive spindle 30 connected to a rotational driving motor capable of contacting-separating with/from a bottom surface, a core barrel 40 releasably connected to the drive spindle 30 by tensile force of predetermined force or more and collecting the core by excavating the seabed, a holding member 70 for holding the rotational driving motor and the core barrel 40 and a movement device 60 for moving the holding member of holding the rotational driving motor to the bottom surface side of a frame body 14 when excavating an excavation hole by the core barrel 40 and moving the holding member 70 for holding the core barrel 40 to the upper surface side of the frame body 14 when extracting the core barrel 40 from the excavation hole by force of the tensile force or more, in the frame body 14 installed in the ROV.SELECTED DRAWING : Figure 2	日油技研工業株式会社; 国立研究開発法人海洋研究開発機構	JP2014201388	2014/9/30

72	Control device for rotary electric machine	PROBLEM TO BE SOLVED : To provide a control device for a rotary electric machine capable of improving current detection accuracy of phase current sensors while suppressing increase in the number of components.SOLUTION : The control device calculates an absolute value of a difference between an U-phase temperature rising amount ΔTuest of an U-phase current sensor and a V-phase temperature rising amount ΔTvest of a V-phase current sensor as a first deviation ΔTuv and calculates an absolute value of a difference between the U-phase temperature rising amount ΔTuest and a W-phase temperature rising amount ΔTwest of a W-phase current sensor as a second deviation ΔTuw. In the case where it is discriminated that the second deviation ΔTuw is greater than the first deviation ΔTuv, the control device selects U-phase and V-phase currents Iu and Iv as phase currents for torque control of a motor generator. In the case where it is discriminated that the second deviation ΔTuw is equal to or smaller than the first deviation ΔTuv, on the other hand, the control device selects U-phase and W-phase currents Iu and Iw as phase currents for torque control.SELECTED	株式会社デンソー	JP2015057171	2015/3/20
73	Communication system and method	PROBLEM TO BE SOLVED : To provide a communication system and a communication method that can stably communicate regardless of the position of an underwater robot in a nuclear reactor pressure vessel.SOLUTION : A communication system comprises : a communication device 5 placed in water housed inside of a nuclear reactor pressure vessel 11 made of conductor; and a communication device 1 that is for communicating with the communication device 5, placed outside of the nuclear reactor pressure vessel 11, and includes a set of feeding points 6, 7 for applying and detecting a communication signal 1a related to communication to the nuclear reactor pressure vessel 11. The system is arranged such that the shortest path connecting the feeding points 6, 7 along the nuclear reactor pressure vessel 11 goes through the vicinity of a point on an inner wall of the nuclear reactor pressure vessel 11, the distance between the point and the communication device 5 being the shortest.SELECTED DRAWING : Figure 1	日立GEニュークリア・エナジー株式会社	JP2014229622	2014/11/12

74	Underwater acoustic positioning system	PROBLEM TO BE SOLVED : To provide an underwater acoustic positioning system which can accurately correct the position of an autonomous underwater robot moving in the water, without requiring any operations to be done. SOLUTION : The underwater acoustic positioning system according to the present invention can stably increase the density and the accuracy of acquiring positional data for an underwater part only by using an acoustic response signal based on a question signal from the underwater part, without requiring an operator to conduct a sending work or operational processing in an on-water part. SELECTED DRAWING : Figure 1 COPYRIGHT : (C)2018, JPO&INPIT	SCIENCE ENGINEERING ASSOCIATION CORP	JP2016226469	2016/11/22
75	The low transmittance glass composition fibrous fine gray	The present invention relates to a low-transmission dark mist green glass composition, more specifically relates to a low-transmission dark mist green glass composition in which Fe 2 O 3 , CoO, Se and Cr 2 O 3 are used as coloring components within a specific content range where for the coloring components the relative contents of (CoO+Cr 2 O 3) to Se and CoO to Cr 2 O 3 are restricted to certain ranges and accordingly the visible transmittance (LT A) is effectively controlled and thus a blocking performance for privacy is satisfied; the solar energy transmittance (T e) and the UV transmittance (T uv) are lowered, and accordingly the cooling load for vehicles, buildings and the like is reduced and interior materials and people protection against UV rays is obtained; and the optimal range of chromaticity diagram of transparent colors is satisfied which accordingly reduces eyestrain and provides	ケーシーシー コーポレーション	JP2015551611	2014/1/7
76	The optical fiber cable system for an underwater remote work machine	An optical fiber management system for a remotely operated vehicle (ROV) includes a spool containing a length of optical cable, a motor coupled to the spool, a motor controller, a speed sensor and a feed mechanism. The motor controller can detect the speed of the ROV through water and control the rotational speed of the motor so that the optical cable is removed from the spool at a speed that is equal to or greater than the speed of the ROV. A feed mechanism is used to apply a tension to the optical cable so that it is removed from the spool and emitted from the ROV without becoming tangled.	ブルーフィン・ロボティクス・コーポレーション	JP2014511550	2012/5/17

77	CONTROL SYSTEM FOR AUTONOMOUS SAILING BODY	PROBLEM TO BE SOLVED : To maintain the soundness of the setting/remote control of a UUV(Unmanned Undersea Vehicle) even when any failure occurs in radio wave communication. SOLUTION : The control system of an autonomous sailing body includes : a setting/remote control device 3 for outputting a command C1 of the sailing of a UUV1, and for confirming and displaying a status S of the UUV 1; and a communication relay device 9 for relaying mutual communication with the UUV1. A USV(Unmanned Surface Vehicle) 2 includes : a command path switcher 11; a setting/remote control preliminary device 15 removably connected to external connection means 14; and a radio communication failure detection device 16. The setting/remote control preliminary device 15 includes a function for outputting a command C2 of the sailing of the UUV 1, and for confirming and displaying the status S of the UUV1. A radio communication failure detection device 16 is configured to, when detecting the failure of radio communication between the setting/remote control device 3 and the USV 2, allowing the command path switcher 11 to switch the command C1 by the setting/remote control device 3 to the command C2 by the setting/remote control preliminary device 15.	IHI CORP	JP2014077479	2014/4/4
78	UNDERWATER SOUND POSITIONING SYSTEM	PROBLEM TO BE SOLVED : To provide an underwater sound positioning system which uses an acoustic signal to observe the position of an autonomous underwater robot or a mobile body moving in an underwater space or to observe a structure or a crustal alteration, for example, in a shallow sea under a severe environment. SOLUTION : The underwater sound positioning system can take a correct image of an object by light of an optical trigger signal without using a special light depending on an underwater part, can obtain a large amount of data, for example, from the underwater part more quickly and more accurately, and can stably increase the accuracy and density of acquiring positional data on the underwater part. SELECTED DRAWING : Figure 1	SCIENCE ENGINEERING ASSOCIATION CORP	JP2016145087	2016/7/25

79	In a dual-mode optical [...] remote machine	A cable containing an optical fiber is used to transmit data between an underwater remotely operated vehicle (ROV) and a support vessel floating on the surface of the water. The ROV pulls the cable through the water and as the ROV dives away from the support vessel, the optical fiber is released from the support vessel. Excess tension in the cable can damage the optical fiber and the tension can be highest close to the ROV. To prevent potential damage to the optical fiber, the ROV can store a portion of the cable and release the cable if the detected tension approaches the maximum working load. When the tension drops to a lower safe level, the release mechanism can stop releasing	ブルーフィン・ロボティクス・コーポレーション	JP2014517139	2012/6/21
80	Pressure vessel and sea exploration for articulated seabed using glass bulb including titanium band robot system	A deep-sea exploration multi-joint underwater robot system and a spherical glass pressure housing including a titanium band are provided. The system includes a multi-joint underwater robot having a multiple of first and second pressure housings withstanding deep-sea pressure and shielding built-in equipment from seawater and performing close precision seabed exploration obtaining marine research data to transmit underwater status data, a mothership receiving and storing marine research and underwater status data and monitoring and controlling moving directions of multi-joint underwater robot, and a depressor having third pressure housing, linked with mothership by primary cable and multi-joint underwater robot by secondary cable, and preventing transmission of primary cable water resistance to multi-joint underwater robot, wherein first spherical pressure housings are mounted on robot body frame, second cylindrical pressure housings are mounted between left and right legs, and the third cylindrical pressure housing is mounted inside the depressor platform.	コリア インスティチュート オブ オーシャン サイエンス アンド テクノロジー	JP2016233151	2016/11/30

81	FUEL-VAPOR VALVE SYSTEM AND COMPONENTS THEREOF	PROBLEM TO BE SOLVED : To provide a low-profile fuel-vapor system suitable for applications in flat fuel tanks and fuel tanks having special geometric architecture. SOLUTION : A roll over fuel-vapor valve ROV comprises a housing defining a valve having : a valve inlet port extending through a wall of the housing; a valve outlet port 100; and a float member 64 disposed between the inlet port and the outlet port and being displaceable between an open position and a closed position. The housing further comprises a fluid flow channel 86 extending along a top portion thereof and having a first end and a second end, where the outlet port extending into the channel so that in the open position a fluid flow is facilitated between the valve inlet port and the channel. SELECTED DRAWING : Figure 3 	RAVAL A C S Ltd	JP2017171677	2017/9/7

82	UNDERWATER CHARGING SYSTEM AND UNDERWATER CHARGING METHOD	PROBLEM TO BE SOLVED : To provide a technique enabling an electric power to be surely supplied to an AUV (Autonomous Underwater Vehicle) in water with simple structure. SOLUTION : An underwater charging system according to an embodiment, comprises : an underwater vehicle operated by a secondary battery as a driving source; and a power supply device supplying an electric power to the underwater vehicle in water. The underwater vehicle comprises : a power receiving part that receives the electric power from the power supply device; and a charging control part that stores the electric power received from the power receiving part into the secondary battery. The power supply device comprises : a propeller for moving in water; a coupling part that couples the underwater vehicle to an own device with a magnetic force; a power transmission part that transmits the electric power to the underwater vehicle; and a position adjustment part that can move a relative position of the coupling part to the own device in a three-dimensional direction. The position adjustment part moves the coupling part so that the relative position of the own device to the dividing machine is set to be a position where the power transmission part can supply electric power to the power receiving part after the coupling part couples the underwater vehicle to the own device. SELECTED DRAWING : Figure 3	JAPAN AGENCY FOR MARINE EARTH SCIENCE TECHNOLOGY; KOWA KK	JP2016120037	2016/6/16
83	Underwater vehicle for self-winding winch and tether release internal diameter remote	A cable containing an optical fiber is used to transmit data between an underwater remotely operated vehicle (ROV) and a support vessel floating on the surface of the water. The ROV stores the cable on a spool and releases the cable into the water as the ROV dives away from the support vessel. The ROV detects the tension in the cable and the rate that the cable is released from the ROV is proportional to the detected tension in the cable. After the ROV has completed the dive and retrieved by the support vessel, the cable can be retrieved from the water and rewound onto the spool in the ROV.	ブルーフィン・ロボティクス・コーポレーション	JP2014523012	2012/7/26

84	UNDERWATER ROBOT CONTROL SYSTEM AND UNDERWATER ROBOT CONTROL METHOD	PROBLEM TO BE SOLVED : To provide an underwater robot control system that can operate a plurality of underwater robots simultaneously and reduce the operation cost thereof, and to provide an underwater robot control method. SOLUTION : In the underwater robot control system, a repeater 4 is connected to one end of a main cable 3 for supplying electrical power from the outside and transmitting a control signal, the repeater 4 is disposed in an underwater region in a static state, the plurality of underwater robots 6a, 6b is respectively connected to the other ends of a plurality of sub-cables 5 extending downward from the repeater 4 and the plurality of underwater robots 6a, 6b is simultaneously controlled by the control signal. SELECTED DRAWING : Figure 1 COPYRIGHT : (C)2018, JPO&INPIT	MITSUI ENG SHIPBUILD CO LTD	JP2016072446	2016/3/31
85	Underwater robot	PROBLEM TO BE SOLVED : To provide an underwater robot which is hardly detected by an ultrasonic probe machine and which can perform underwater navigation and rotation in place. SOLUTION : An underwater robot comprises : a spherical housing 1; and four thrusters 10 attached to the housing 1, in which each thruster 10 is attached with 90°C interval in a circumferential direction of the spherical housing 1, and each thruster 10 has a direction conversion mechanism capable of converting by 360°, a thrust direction. Since the housing 1 is formed into a spherical shape, even if an ultrasonic is applied to the underwater robot, the ultrasonic is not reflected to a sound source direction, so that, the underwater robot is hardly captured by an ultrasonic probe machine. By combining direction conversion of the four thrusters 10, each operation of forward and backward movements, autorotation, revolution and underwater navigation, can be performed. SELECTED DRAWING : Figure 1	KAKU SHOSHO	JP2016046933	2016/3/10

86	For underwater robot	This underwater robot is provided with : a frame; a propulsion unit; a weight; a buoyant material; and a drive mechanism. The propulsion unit has a plurality of propellers that generate propulsion force in each direction of a first axis, a second axis, and a third axis which are orthogonal to each other. The weight is attached so as to be movable in the direction of the first axis and the center of gravity of the weight is moved through movement thereof in the direction of the first axis. The buoyant material is attached so as to be movable in the direction of the second axis and the buoyancy-center position of the buoyant material is moved through movement thereof in the direction of the second axis. The drive mechanism respectively moves the weight and the buoyant material in the direction of the first axis and in the direction of the second axis in synchronization with each other.	パナソニックIPマネジメント株式会社	JP2016566296	2016/7/5
87	Ultraviolet absorbing glass articles	The present invention relates to an ultraviolet-absorbing glass article containing, as represented by mass % based on oxides, as a glass matrix composition : SiO2 : 66 to 75%, Na2O : 10 to 20%, CaO : 5 to 15%, MgO : 0 to 6%, Al2O3 : 0 to 5%, K2O : 0 to 5%, FeO : 0.1 to 0.9%, total iron as represented by Fe2O3 : 0.6% or more and less than 2.4%, and V2O5 : more than 0% and 1% or less, containing from 100 to 500 mass ppm of CoO, containing from 0 to 70 mass ppm of Se, containing from 0 to 800 mass ppm of Cr2O3, having a total content of CoO, Se and Cr2O3 of less than 0.1 mass %, and having an ultraviolet transmittance (TUV) (ISO9050 : 2003) of 2% or less at a thickness of 3.5 mm.	旭硝子株式会社	JP2016547409	2015/9/3
88	Underwater robot docking station	The present disclosure relates to a docking station whereby an underwater robot can be maintained, repaired and managed all the time. According to one aspect of the present disclosure, a docking station can be provided that may comprise : a receiving unit configured to receive an underwater robot therein and positioned under a surface of water; a maintenance unit provided on the receiving unit and positioned above the surface of the water; and a conveyor unit configured to convey the underwater robot from the receiving unit to	コリア インスティチュート オブ インダストリアル テクノロジー	JP2015535553	2012/12/20

89	Vehicle	PROBLEM TO BE SOLVED : To provide a vehicle equipped with privacy glass which is excellent in design property and gives less influence on human sight than conventional. SOLUTION : In a vehicle having at least first and second windows in a body that accommodates passengers, the first window 11 is constituted of a glass plate the visible light transmissivity (TVA) of which based on a standard A light source is 70% or more, and the second window 14 is constituted of a glass plate the ultraviolet light transmissivity (TUA) of which regulated by ISO9050 : 2003, and the visible light transmissivity (TVA) of which based on a standard A light source at a plate thickness of 3.5 mm is 2% or less, visible light transmissivity (TVA) of which based on a standard A light source at a plate thickness of 3.5 mm is 8% or more and 28% or less, and the glass color tone of which denoted by chromaticity coordinates x, y in a XYZ color system, regulated by JISZ8701 : 1999, based on the two-degree field of view of a standard C light source satisfies the following expressions (1), (2) y≥-0.735×x+0.544(1)y≥1.389×x-0.089(2). SELECTED DRAWING : Figure 1 COPYRIGHT : (C)2017, JPO&INPIT	ASAHI GLASS CO LTD	JP2015227053	2015/11/19

90	COMMUNICATION SYSTEM, COMMUNICATION METHOD, AND ROBOT REMOTE CONTROL OPERATION SYSTEM	PROBLEM TO BE SOLVED : To materialize a communication system having enough directivity to lighten the influence of a multi-path in communication, which can be incorporated even in a compact robot. SOLUTION : An operation direction center 3 creates a control command concerning the movement of an underwater robot, and calculates a parameter which decides a reception directivity. A reception direction-deciding unit 35 decides a reception direction which allows a signal sound wave to be received with the least influence of a multi-path or the like at a current position of the underwater robot, and calculates a desired reception direction φ for the underwater robot. In an underwater base station 4, a frequency calculating unit 41 calculates a transposition quantity Δf from the desired reception direction φ, a corrected sound speed Vadj, and a moving speed v of the underwater robot, which are received from the operation direction center 3, and a frequency f0, and calculates a transmission frequency f0+Δf. A modulation unit 42 modulates, by the transmission frequency f0+Δf calculated by the frequency calculating unit 41, a telegram M transmitted from a control command generation unit 32 and then, the modulated telegram is amplified by a power amplifier 43, input to a transmitter 44 and radiated into water. SELECTED DRAWING : Figure 6	HITACHI GE NUCLEAR ENERGY LTD	JP2015203151	2015/10/14
91	[tsuburishin[tsuburishin] derivatives	Novel tubulysin derivatives which may be useful as cytotoxic agents to provide therapeutic benefits in the treatment of various types of cancers, alone, as drug conjugates or in combination with other chemotherapies are provided.	メディミューン エルエルシー	JP2017504616	2015/4/10

92	ROLL-OVER VALVE	PROBLEM TO BE SOLVED : To provide a roll-over valve for suppressing initial leakage of fuel. SOLUTION : A roll-over valve (ROV) 4 is provided in a ventilation passage of a fuel tank 2. The ROV 4 includes a case 8 which provides a valve seat 16. The ROV 4 has a movable valve element 31. The movable valve element 31 is supported to be movable between a valve close position in which the movable valve element 31 is seated on the valve seat 16 and a valve open position in which the movable valve element 31 is separated from the valve seat 16. The movable valve element 31 generates a load which varies in accordance with a tilt angle of the fuel tank 2. The ROV 4 has a spring 41. The spring 41 is arranged to energize the movable valve element 31 to the valve close position, and receives the load. When the fuel tank 2 is tilted to exceed a leakage start angle, fuel reaches the valve seat 16. The spring 41 positions the movable valve element 31 at the valve close position in an angle range beyond a preliminary angle smaller than the leakage start angle. Accordingly, initial leakage can be suppressed. SELECTED DRAWING : Figure 1	KYOSAN DENKI CO LTD	JP2015189972	2015/9/28
93	As a process for the preparation and tube ricin	Processes are described for the preparation of tubulysins. The processes are useful for preparing predetermined mixtures of tubulysins, preparing single tubulysins from mixtures of tubulysins, and for converting one tubulysin into a different tubulysin. The tubulysins described herein are useful in treating diseases and disease states that include pathogenic cell populations.	ENDOCYTE INC	JP2014125594	2014/6/18

94	The function of the compound movement of walking and swimming multiarticulated submarine robot and having a pitch system	Disclosed is an underwater exploration system using a multi-joint underwater robot having a novel complex movement concept in which the multi-joint underwater robot moves through walking or swimming with multi-joint legs closely to a seafloor, differently from a conventional underwater robot to obtain a thrust through a propeller scheme. The underwater exploration system includes the multi-joint underwater robot having the complex movement function according, a depressor, and a mother ship to store data of an underwater state transmitted from the multi-joint underwater robot and to monitor and control a movement direction of the multi-joint underwater robot. The depressor is connected to the mother ship through a primary cable, the multi-joint underwater robot is connected to the depressor through a second cable, and resistance force of the primary cable is applied to the depressor without being transmitted to the multi-joint underwater	コリア インスティチュート オブ オーシャン サイエンス アンド テクノロジー	JP2014547100	2012/12/13
95	Underwater robot type vent and inspection system	An apparatus for venting at least a portion of an air pocket trapped at an underside of an article that is at least partially submerged in a liquid, the apparatus comprising : a control apparatus (4); a tractor apparatus (6) comprising a tractor (40) and a drive mechanism (42) connected together, the drive mechanism (42) being connected with the control apparatus (4); a tether apparatus (8) disposed on the tractor (40) and movable between a deployed position and a retracted position; and a buoy apparatus (10) connected with the tether apparatus (8) and comprising a buoy (62) and a vent apparatus (12), the buoy (62) in a condition submerged in the liquid applying a buoyant force to at least a portion of the vent apparatus (12) whereby in the deployed position of the tether apparatus (8) the buoy apparatus (10) is in an elevated position wherein the at least portion of the vent apparatus (12) is in fluid communication with the air pocket to vent at least a portion of the air pocket in the elevated position of the buoy apparatus (10).	ウエスチングハウス・エレクトリック・カンパニー・エルエルシー	JP2014506617	2012/4/23

96	Fuel valve	Provided is a fuel valve including a uniform valve housing accommodating a roll-over valve (ROV), an over-pressure relief valve (OPR) and a pressure retention valve (PRV), wherein a pressure retention disc is substantially axially displaceable within a top chamber of the valve housing, between a normally closed portion in which it sealingly bears over an outlet port of the flow path and an open position; the pressure retention disc is configured with a cutout portion at least partially enveloping a pressure relief port of the valve.	ラヴァル・エー・シー・エス・リミテッド	JP2013558571	2012/3/13
97	The underwater platform having a LIDAR and related method	Systems and methods for conducting autonomous underwater inspections of subsea and other underwater structures using a 3D laser mounted on an underwater platform such as AUV, an ROV or a tripod. The systems and methods described herein can be used for scanning underwater structures to gain a better understanding of the underwater structures, such as for example, for the purpose of avoiding collision of an underwater vehicle with the underwater structures and for directing inspection, repair, and manipulation of the underwater structures.	ロッキード・マーチン・コーポレーション	JP2016506655	2014/4/4
98	ROBOT FOR AMPHIBIAN SURVEY	PROBLEM TO BE SOLVED : To provide a robot for amphibian survey, which is compact, which can move in a narrow pipe path and on a grating floor even in atmosphere without air, and which can travel in water. SOLUTION : A robot 10 for amphibian survey comprises : a robot body 12 capable of mounting thereon, a measurement apparatus for measuring a surrounding state; travel means 14 for moving the robot body by driving under atmosphere; and in-water travel means for traveling the robot body in water, by moving fin parts 24a, 24b disposed on the robot body. The robot body is configured so that, when traveling in-water, the robot body can deform to an in-water travel shape in which the fin parts are expanded during in-water travel, and a narrow shape in which the robot body can travel in a pipe path having predetermined thickness, by making the fin parts narrower. SELECTED DRAWING : Figure 1 COPYRIGHT : (C)2016, JPO&INPIT	KANAZAWA INST OF TECHNOLOGY; SUGINO MACHINE LTD	JP2015029442	2015/2/18

99	Vehicle	PROBLEM TO BE SOLVED : To provide a vehicle which keeps a centroid of a vehicle at a low level to enable improvement of the riding quality and inhibits a fried material from a front side from hitting a connection part of a torsion bar. SOLUTION : A recreational off-highway vehicle (ROV) 1 includes : a left lower arm 33; a right lower arm 35; and a torsion bar 43 connected to the left lower arm 33 and the right lower arm 35. The torsion bar 43 has : a center part 43a extending in a horizontal direction at a front side relative to a left driving shaft 41 and a right driving shaft 42; a left connection part 47 positioned at a left side of the center part 43a and connected to a rear frame 37b of the left lower arm 33; and a right connection part 47 positioned at a right side of the center part 43a and connected to the rear frame 37b of the right lower arm 35. SELECTED DRAWING : Figure 5 COPYRIGHT : (C)2016, JPO&INPIT	YAMAHA MOTOR CO LTD	JP2015025368	2015/2/12
100	Underwater robot (part industrial design)	The article is concerned with underwater robot used in tests such as dams, as depicted in reference view showing a part names, and a circular two sonar front vertically and horizontally. Sonar is a distance between the wall surface facing the said underwater robot is measured and in which it is steered to maintain a constant distance. Represented part by a solid line, including a cross-sectional view is a part that is going to receive a design registration as a partial design.	パナソニックIPマネジメント株式会社; Panasonic Intellectual Property Management Co Ltd	JPD2015015847	2015/7/16

101	Vehicle	PROBLEM TO BE SOLVED : To provide a vehicle in which a transmission case, a crank case and an actuator are laid out appropriately. SOLUTION : An ROV (Recreational Off-Highway Vehicle) 1 comprises : a main frame 22; an engine including, a crank case mounted to the main frame 22 and a crank shaft arranged inside the crank case; a transmission including a main shaft which is provided with a plurality of first gears including axially movable first motion gears and which rotates by receiving a driving force of the crank shaft, a drive shaft which is provided with a plurality of second gears including axially movable second motion gears and engaged with the first gears, and a shift drum for moving the first gear and the second gear; a transmission case 82 arranged to be spaced apart from the crank case and housing the transmission; and a shift actuator 16 for rotating the shift drum. At least a part of the transmission case 82 and the crank case are overlapped when viewing from an axial direction of the crank shaft, and the shift actuator 16 is fixed to the transmission case 82. SELECTED DRAWING : Figure 4 COPYRIGHT : (C)2016, JPO&INPIT	YAMAHA MOTOR CO LTD	JP2014242314	2014/11/28
102	The underwater object control system	PROBLEM TO BE SOLVED : object of accurately recognizing an object to shape and accurate position/attitude autonomously control it is possible to provide a system for controlling the underwater vehicle. SOLUTION : underwater power system 3 and, 10 and underwater robot, imaging an object and a camera eye 2, underwater power system 3 and a control means 20 and eye camera 2, provided in the underwater object control system 100, the control means 20, images captured by the camera eye 2 is input, and an image input part 21, including the feature of the object is stored model storage unit 22 and a model, the model of the input image adapted for obtaining a predetermined fit functions and computing section 23, the adaptability of the target based on a genetic algorithm executing genetic information and genetic algorithm executing part 24, provided, the genetic algorithm executing part 24, so as to conform to an object in a predetermined time by phylogenetic genetic information, to estimate the position and attitude of the object. Selected drawing : fig. 2	The University of Okayama University504147243	JP2014227592	2014/11/7

103	Fluid power plant	The invention relates to a submerged marine current power plant for an offshore energy generator, comprising the following features : an energy unit with a turbine and a generator drivingly connected thereto; a support structure for supporting the energy unit; an inspection or work robot for inspecting or working on parts of the marine current power plant; the robot is provided with a drive; the drive comprises an auxiliary turbine that can be driven by the marine current, or an accumulator for temporarily storing the working energy for a limited period during operation of the robot.	Voit Patent GmbH508204618	JP2016503686	2014/3/24
104	Tube lysines analogue	The present invention relates to novel tubulysin compounds (tubulysin analogues) as well as pharmaceutical formulations thereof. The present invention further relates to the use of such compounds for medicinal, agricultural, biotool or cosmetic applications. In particular, the novel tubulysin analogues show a cytostatic effect and can therefore be used for the treatment of proliferative disorders. The tertiary amide moiety of the tubulysin analogues (so-called tubugis) according to the present invention is generated by an Ugi-type reaction.	Leibniz Institute fur flop Franzen Biot Kemi Sutifuchungu death er fen birds Partenkirchen Rehitsu513012185	JP2013520001	2011/7/18
105	Laser built-in underwater robot camera (part industrial design)	The article relates to a robot camera to be used in water, such as dams, cameras and for taking images used in the inspection of the dam, and stores the four length-measuring laser to realize shape measurement of the damaged part ing. Represented part by a solid line, including a cross-sectional view is a part that is going to receive a design registration as a partial design. In reference view showing a transparent portion, the portion hatched is transparent.	Panasonic Intellectual Property Management Co Ltd; パナソニックIPマネジメント株式会社	JPD2015015845	2015/7/16
106	Camera for underwater robot (part industrial design)	The article relates to a camera provided in the underwater robot used in tests such as dams, for steering the underwater robot, for taking the surrounding image, a camera built in the water pressure resistance capsules. Represented part by a solid line, including a cross-sectional view is a part that is going to receive a design registration as a partial design. Portion indicated by hatching in reference diagram and reference diagram showing the name of each part showing a transparent portion is transparent.	Panasonic Intellectual Property Management Co Ltd; パナソニックIPマネジメント株式会社	JPD2015015846	2015/7/16

107	Underwater bank and its recovery method	PROBLEM TO BE SOLVED : To provide an underwater floating fishing bank to which a ROV (remotely operated vehicle) can, firstly, simply be carried to an underwater floated fishing bank without metal fittings for recovery and in which a recovery rope is, secondly, hardly rubbed or entangled with the underwater floating fishing bank or a mooring rope; and to provide a method for recovering the same.SOLUTION : An underwater floating fishing bank 1 which is moored to a sinker built on the bottom of water through a mooring rope in a floated state in sea water is characterized in that a recovery rope 5 whose one end is connected to the mooring rope and other end is connected to the lid portion 22 of a recovery rope-receiving box 2 set to the upper portion of the underwater floating fishing bank 1 and is at least approximately extended to the sea level is received in a recovery rope-receiving box 2, and a portion 22a to be latched is disposed in the lid portion 22. Therefore, when the underwater floating fishing bank 1 is recovered, the latching portion 81 of ROV8 latches the portion 22a to be latched of the lid portion 22, and the other end of the recovery rope 5 including the lid portion 22 is carried to a working ship, and then the recovery rope 5 is wound up.	Okabe Co Ltd446	JP2012055707	2012/3/13
108	Vehicle	PROBLEM TO BE SOLVED : To provide a vehicle which secures a stroke of a shock absorber for a front wheel and improves the visibility of the front side. SOLUTION : A recreational off-highway vehicle (ROV) 1 includes : seats 11, 12 arranged in a vehicle width direction; a left shock absorber 17; a right shock absorber 18; and a front cover 20. Openings 81, 82 are formed at the front cover 20. An upper end part 17A of the left shock absorber 17 and an upper end part 18A of the right shock absorber 18 are respectively disposed so as to be visible within the openings 81, 82 in a vehicle plan view. SELECTED DRAWING : Figure 3 	YAMAHA MOTOR CO LTD	JP2014153802	2014/7/29

109	Level adjustment device, and a program for level adjustment	PROBLEM TO BE SOLVED : To provide a level adjustment device which can easily restrain deterioration in the quality of analog acoustic signals without imposing a burden on a user. SOLUTION : In the level adjustment device, an input port has an analog input block 800, and the analog input block 800 includes a detouring switch 801, a pad 802 which attenuates a signal level with fixed gain, and an amplifier 803 which adjusts the signal level by amplifying or attenuating it with variable gain. The detouring switch 801 can switch between a pad-on state in which the signal level is adjusted by the pad 802 and the amplifier 803 and a pad-off state in which the signal level is adjusted only by the amplifier 803. After the signal level adjustment, the input port is extracted which is in a pad-on state and is within an overlapping ROV range in which gain is adjustable regardless of whether the pad is on or off, and a switchover adjustment to the pad-off state is exerted on the analog input block 800 of the relevant input port. COPYRIGHT :	Yamaha Corporation4075	JP2011260460	2011/11/29
110	Vehicle	PROBLEM TO BE SOLVED : To provide a vehicle equipped with a plurality of seats arrayed along car width direction such as ROV, in which a maintenance work of an air cleaner is easy. SOLUTION : ROV1 includes a car body frame 20, a plurality of seats 10L, 10R which are supported by the car body frame 20 respectively, being arrayed along car width direction, a cargo bed 60 equipped with a placement surface 62 which is disposed behind the seats 10L, 10R and supported by the car body frame 20, for loading a cargo, and an air cleaner 80 which is disposed behind the seats 10L, 10R, with at least a part of it being exposed to the outside above the placement surface 62. COPYRIGHT : (C)2016, JPO&INPIT	YAMAHA MOTOR CO LTD	JP2014132922	2014/6/27

111	VEHICULAR WINDOW GLASS	PROBLEM TO BE SOLVED : To provide a liquid composition allowing for formation of a coating film which has sufficient ultraviolet absorption function and infrared absorption function and nonetheless is securely colorless and transparent, and also is excellent in weather resistance, and to provided a production method of the liquid composition, and a glass article having a coating film which has sufficient ultraviolet absorption function and infrared absorption function and nonetheless is securely colorless and transparent, and also is excellent in weather resistance. SOLUTION : A vehicular window glass is provided which comprises a glass substrate composed of soda lime glass, and a coating film formed on the glass substrate and including an infrared absorber and ultraviolet absorber. The vehicular window glass has an ultraviolet transmittance (Tuv) equal to a specific value or less, a solar transmittance (Te) equal to a specific value or less, a visible light transmittance (Tv) equal to a specific value or more, a YI equal to a specific value or less, and a change in the Tuv before and after of a predetermined weather resistance test, equal to a specific value or less.	ASAHI GLASS CO LTD	JP2015116096	2015/6/8

112	Underwater robot	PROBLEM TO BE SOLVED : To provide an underwater robot having superior pressure resistance and water resistance, and facilitating replacement of each module by composing the single function modules into an independent unit by achieving communication by radio. SOLUTION : The underwater robot includes : a plurality of independent units 2, and 7 that store single function modules containing at least a working device 2b and a control device 7b in pressure resistance waterproof cases 2a and 7a; chassis 5 and 6 that can detachably attach the independent units 2 and 7; and a non-conductive transmission medium 10 that is contacted and fixed to the outside of the pressure resistance waterproof cases 2a and 7a without boring holes on the cases. The independent units 2 and 7 house communication means 2c and 7c and batteries 2d and 7d, and the control device 7b communicates through the communication means 7c of the independent unit of the control device and the communication means 2c of an independent unit that stores other single function modules, and controls other single function modules, and controls the entire operation as the underwater robot. COPYRIGHT : (C)2013, JPO&INPIT	TOKYO UNIV OF MARINE SCIENCE TECHNOLOGY	JP2011203667	2011/9/16
113	By using a remotely operated vehicle, a method of testing the submarine	A method of subsea testing using a remotely operated vehicle (ROV) is provided. The ROV has a spectroscopic sensor, preferably an x-ray fluorescence or neutron activation analysis sensor. The method includes identifying seafloor material to analyse, directing the ROV to the identified seafloor material, and analysing the seafloor material with the spectroscopic sensor. The method allows real time, or at least near real time, analysis of seafloor materials of interest without the need to obtain samples for analysis at the surface.	Nautilus Minerals Pashifuitsuku proprietary Rimitetsudo511072736	JP2015523341	2013/7/10

114	Vehicle	PROBLEM TO BE SOLVED : To provide a vehicle in which a position of a seat is lowered and the layout flexibility of an engine and a transmission case are improved thereby inhibiting enlargement of the vehicle. SOLUTION : A recreational off-highway vehicle includes : a vehicle body frame 20; a seat 10L including a seating part 14L; a seat 10R including a seating part 14R; an engine 60 which is disposed at the rear side relative to the seating part 14L and the seating part 14R and is supported by the vehicle body frame 20; a transmission including a main shaft 83 which receives a driving force of a crank shaft and rotates and a drive shaft; and a transmission case 82 which is formed separately from the engine 60, is disposed separated from the engine 60, and houses the transmission. At least a part of the transmission case 82 is disposed between the seating part 14L and the seating part 14R and above a lower end 14LB of the seating part 14L and a lower end 14RB of the seating part 14R.	YAMAHA MOTOR CO LTD	JP2014022207	2014/2/7

115	The static and dynamic Autopositioning marine structure and method or motion control system	Disclosed is a system and method for static and dynamic positioning or motion control of a marine structure by using real-time monitoring of at least one of a mooring line, marine environments, 6-dof movement of a marine structure, a tank state, a ship topside, the seabed, or their combinations. The static and dynamic real-time monitoring data of the mooring line is obtained and processed for positioning the marine structure or controlling and managing a motion thereof Here, 1) a tension of a mooring line is measured by means of real-time monitoring of the mooring line, 2) various marine environment elements such as wind direction, wind speed, air humidity, atmospheric pressure, atmosphere temperature, cloud height, visibility, ocean wave, wave height, sea current speed, sea current direction, rain or the like are measured by means of real-time monitoring of the marine environments, 3) 6-dof movement of the marine structure is measured by means of real-time monitoring of the marine structure, 4) ullage and sloshing data of various tanks in the marine structure are measured by means of real-time monitoring of tank states, 5) damage and life of pipes, facilities or the like located at a ship topside of the marine structure are measured by means of real-time monitoring of the ship topside, 6) damage and life of umbilical cables, pipes, pumps and valves located on the seabed are measured by means of real-time monitoring of the seabed, and suitable static and dynamic positioning or motion control and management may be automatically performed	CYTRONIQ LTD	JP2015505637	2013/4/9
116	Pinching and pressing member used in the same	PROBLEM TO BE SOLVED : To provide a user-friendly pair of scissors and a pressing member used therefor, exerting a superior cutting force even when a cut object is made of thin and/or soft material. SOLUTION : The scissors consist of a pair of blade bodies, each having a blade part 1 on a tip side and a grip part on a root side, disposed in a cross state and pivotally supported by a rotation axis 3. On the outer side of an upper blade 1a, when the scissors are placed in a use state, the pressing member 4 made of thick linear material is provided along a blade 1 auV of the blade part 1a. COPYRIGHT : (C)2013, JPO&INPIT	Kii Industry Co Ltd158781	JP2011064149	2011/3/23

117	Fuel tank	PROBLEM TO BE SOLVED : To provide a fuel tank which eliminates any leakage of liquid and gaseous fuel to the outer atmosphere or limits the leakage to a very small amount, and satisfies the safety function to be generally achieved by a current fuel system, and considerably simplifies the complicated mounting of the tank. SOLUTION : There is provided a fuel tank including a canister containing a composition which can retain fuel vapors. At least a part of this canister is located inside the tank, and partially provided in the tank interlockingly with an overfill prevention (OP) device for preventing any overfill of the tank. There is further provided a device (ROV) for closing a tank breather when the tank is toppled. COPYRIGHT : (C)2011, JPO&INPIT	INERGY AUTOMOTIVE SYSTEMS RES	JP2010205797	2010/9/14
118	Shielding ability and glass article having a composition for forming a fine particle dispersion	An ultraviolet shielding film according to the present invention includes a silicon oxide and fine particles of an organic compound A that is solid at ordinary temperature and that has a molecular weight of 5, 000 or less, the fine particles having an average particle diameter of 150 nm. A glass article of the present invention has an ultraviolet transmittance (TUV 380) of, for example, 2% or less, and preferably further has a light transmittance (T 550) more than 70% at a wavelength of 550 nm. The ultraviolet shielding film may further include an organic compound B such as a polyether compound and a polyol compound. The ultraviolet shielding film is excellent in the sustainability of the ultraviolet shielding ability.	Nippon Sheet Glass Co Ltd4008; Dye Co Kingdom591064508	JP2011143918	2011/6/29

119	Underwater robot	PROBLEM TO BE SOLVED : To provide an underwater robot which moves in a pipeline, through which liquid flows, for detecting abnormality of the pipeline, and of which the ground speed can be accurately measured.SOLUTION : An underground robot 1 includes a light-emitting element 3, and an optical Doppler sensor 2 which is constituted of a light receiving element 4 and an arithmetic unit. The light-emitting element 3 outputs pulse waves while being flashed at regular intervals, the light receiving element 4 receives the pulse waves reflected against the inner wall of a pipeline 30, and from the intervals of blinks of the pulse waves emitted by the light-emitting element 3 and the intervals of the blinks of the pulse waves received by the light receiving element 4, the arithmetic unit calculates the moving speed of the underwater robot 1 against the inner wall of the pipeline	MITSUI SHIPBUILDING ENG	JP2010284419	2010/12/21
120	Pool monitoring system and related method	A system for surveillance of a pool containing a liquid such as water-comprises at least one first element comprising at least one submersible robot provided with standalone propulsion capabilities for propelling the robot in the pool, onboard of which robot is installed at least one sensor capable of producing at least one measurement of a quantity representative of at least one disturbance of the pool relative to a reference state, the first element being furthermore provided with communication capabilities for communicating, in the submerged position, with at least one second element, the system being configured to process, in processing means, the output of the at least one sensor and to trigger at least one action.	Aldebaran Robotics311003754	JP2014541707	2012/11/20
121	UMBILICAL CABLE AND UNDERWATER OBSERVATION SYSTEM	PROBLEM TO BE SOLVED : To provide a structurally-simple, lightweight and high-strength umbilical cable rich in flexibility. SOLUTION : In an umbilical cable for connecting a mother ship and an ROV together, an optical fiber core wire is housed in a metal pipe. The metal pipe near the mother ship is longitudinally coated in a twist-wound manner with an exterior iron wire, and the metal pipe near ROV is subjected to flexibilizing processing. COPYRIGHT : (C)2015, JPO&INPIT	OCC CORP	JP2013068843	2013/3/28

122	The gas-liquid separator is provided with a ventilation system including a fuel tank	Ventilation system for a fuel tank comprising a pump, an active liquid/vapor separator (LVS) that can be drained using the pump, in which a roll-over valve (ROV) that is normally open brings, by default, the internal volume of the LVS into communication with the pump and only blocks this communication when the level of fuel in the valve reaches a certain height or when the tank is tilted beyond a certain angle, or even overturned.	Inaji Automotive Systems Research (Societe anonym)507383057	JP2011532627	2009/10/22
123	Vehicle speed control device	PROBLEM TO BE SOLVED : To provide a speed controller for a vehicle, capable of suitably setting a target wheel speed of each wheel and improving the small-radius turn performance while suppressing occurrence of unwanted longitudinal slipping of each wheel during the vehicle's turning. SOLUTION : The speed controller determines the reference position (Point O) of the vehicle based on the steering angle δfg and the steering geometry (Rov=L/tan(δfg)) of the vehicle and determines the turning center (Point P) of the vehicle on the side nearer to the vehicle from the reference position. The target angular speed ωpt is calculated on the basis of the turning center and a directed vehicle speed set by a driver. The target wheel speed Vwt [**] is determined on the basis of the target angular speed and the distance Rpw [**] of each wheel from the turning center. Thereby, the target wheel speed of each wheel is separately determined so that the wheel speed difference between the wheels resulting from the moving trace difference between the wheels is secured and the small-radius turn performance is improved. The vehicle speed approaches the directed vehicle speed while compensating the unwanted longitudinal slipping resulting from the moving trace difference between the wheels. COPYRIGHT : (C)2011,	Advics Co301065892; Aisin Seiki Co Ltd11; JTEKT Corporation1247	JP2009296917	2009/12/28

124	Vehicle speed control device	PROBLEM TO BE SOLVED : To provide a speed control device for a vehicle suppressing generation of unnecessary forward/rearward slip of each wheel in a vehicle turning state by properly setting target wheel speed of each wheel. SOLUTION : In the speed control device, the turning center (point O) of the vehicle is determined based on a steering angle δfg and steering geometry (Rov=L/tan(δfg)) of the vehicle. A wheel base of the vehicle is ser as L. Target angular velocity ωot is calculated based on the turning center and instructed speed set by an operator. Target wheel speed Vwt[**] of each wheel is determined based on the target angular velocity and distance Row[**] of each wheel from the turning center. Thus, the target wheel speed of each wheel can be determined individually so that the wheel speed difference between wheels caused by moving trajectory difference between the wheels can be secured. The vehicle speed can be brought closer to the instructed vehicle speed while the unnecessary forward/rearward slip caused by the moving trajectory difference between the wheels is compensated. COPYRIGHT : (C)2011, JPO&INPIT	Advics Co301065892; Aisin Seiki Co Ltd11; JTEKT Corporation1247	JP2009296914	2009/12/28
125	For sealing rear biaxially oriented polyester film	PROBLEM TO BE SOLVED : To provide a biaxially-oriented polyester film for solar cell rear-surface sealing having hydrolysis resistance and UV resistance, as well as, low haze and low shrinkage. SOLUTION : The biaxially-oriented polyester film for solar cell rear-surface sealing is a biaxially-oriented polyester film containing an ultraviolet absorbent, wherein the average value of light transmittance in a light wavelength range of 400-650 nm (Tave) is 75.0% or higher; as well as, the light transmittance at a light wavelength of 380 nm (Tuv) is 60.0% or lower; the content of antimony element in the polyester film is 10 ppm or less; the content of titanium element is 20 ppm or less; the content of phosphorus element is 170 ppm or less; the amount of terminal carboxyl group is 26 equivalent weight/t or less; the limiting viscosity is 0.65 dl/g or higher; and the heat shrinkage in a longitudinal direction of the film after a treatment for 30 minutes at 150 °C is 0.8% or lower. COPYRIGHT : (C)2011, JPO&INPIT	Mitsubishi Plastics Inc6172	JP2010015227	2010/1/27

126	The flow resistance-reducing structure	PROBLEM TO BE SOLVED : To provide flow resistance reducing structure to be used for a fluid contact surface of a mobile body such as a vessel, an underwater robot, a submarine, an aircraft, a railway vehicle and an automobile, a rotor such as a propeller and a wind power generation blade or the like, and a swimwear, and exhibiting a flow resistance reducing effect by forming a surface flow into a laminar flow to stabilize a fluid flow not only in a laminar flow area wherein the flow speed is relatively small but also in a turbulent flow area wherein the flow speed is large. SOLUTION : This flow resistance reducing structure comprises a plurality of protruding parts 3 formed with a space from each other in a fluid contact surface 2 of an article, and a plurality of protruding line parts 5 formed in nearly parallel with each other on the top surface 4 of the protruding part 3. COPYRIGHT :	Kitakyushu Foundation for Science and Industry Promotion Agency802000031	JP2008171380	2008/6/30
127	sonar data collection system	A system that can be used for inspecting underwater structures. The system allows a user to gain a better understanding of the condition of an underwater structure. The system is a self-contained, modular system that can be operated by divers, coupled to an AUV, ROV or other host platform vehicle deployment platform, towed by a ship, pole mounted, or hull mounted. All of the components necessary to achieve the desired scanning functions are incorporated onto the self-contained, modular system. The system can include and fully utilize a 3D sonar system and an inertial navigation system. This combination of features permits the system to be used to, for example, generate 3D models of underwater structures, detect changes in underwater structures by comparing the generated 3D model against an a priori 3D model, and provide navigational updates to the host platform based on the observed features of an underwater structure.	Lockheed Martin Corporation	JP2013536712	2011/10/25

128	UNDERWATER CLEANING ROBOT AND AUXILIARY CLEANING WORK MACHINE	PROBLEM TO BE SOLVED : To improve the cleaning efficiency of an object to be cleaned by enlarging the cleaning surface of an underwater cleaning robot. SOLUTION : The underwater cleaning robot is provided with a robot body 2 moving along the surface of the object to be cleaned which is present in the underwater and a cleaning nozzle unit 3 for cleaning the object to be cleaned by jetting high pressure water toward the surface of the object to be cleaned. An auxiliary cleaning work machine 70 is mounted inside the robot body and is provided with : a rotary shaft 76 provided rotatably in a work machine body 71; a cleaning nozzle unit 72 which is provided on the lower part of the rotary shaft, jets the high pressure water to the surface of the object to be cleaned and integrally rotates with the rotary shaft by the reaction force of jetting of the high pressure water to the surface of the object to be cleaned; and a propeller 73 which is provided on the upper part of the rotary shaft and rotates with the rotation of the rotary shaft to generate a force for pressing the work machine body to the surface of the object to be cleaned.	YANMAR CO LTD	JP2008033699	2008/2/14
129	Module system backup fluid supply system	A system and method to allow backup or alternate fluid flow routes around malfunctioning components using removable, modular component sets. In one exemplary embodiment, an ROV (106) establishes a backup hydraulic flow to a BOP (22) function by attaching one end of a hose to a modular valve block (18, 77) and the other end to an intervention shuttle valve (16), thus circumventing and isolating malfunctioning components. A compound intervention shuttle valve (16) is provided that comprises first (100) and second (600) primary inlets, first (101) and second secondary inlets (601), and an outlet (50). A modular valve block is provided that comprises a directional control valve (40, 42), a pilot valve (41, 43), a manifold pressure regulator (45), a pilot pressure regulator (46), stab type hydraulic connections and an electrical wet-make connection (410).	Transocean Offshore Deepwater Drilling Inc508032756	JP2008525188	2006/8/2

130	Water cleaning device	PROBLEM TO BE SOLVED : To provide an underwater cleaning equipment which can clean fouling on the surface cleanly and at the same time, has a simple constitution and a higher general versatility in order to practice effectively an inside check by an underwater check robot. SOLUTION : The underwater cleaning equipment 1 comprises a suspension device 2 having an installing mechanism to the underwater check robot R, a cleaning equipment body 3 attached to the suspension device 2 and cleaning a tread of the underwater check robot R, and a floating body 4 attached to the cleaning equipment body 3. The cleaning equipment body 3 is provided movably at least in a vertical direction to the tread and held substantially with neutral buoyancy by the buoyancy of the floating body 4 in a state of being attached to the suspension device 2, and is provided with a rotating disk 33 comprising cleaning brushes 34 sliding in contact with the tread. By rotary-driving the rotating disk 33, a liquid between the rotating disk 33 and the tread is pushed outside to become depressurized, and is constituted so as to be pressed to the tread. COPYRIGHT : (C)2010, JPO&INPIT	Tokyo Electric Power Co3687; TEPCO Design Co221546; Mitsui Engineering amp; Shipbuilding Co Ltd5902	JP2008280799	2008/10/31
131	Underwater robot for dissolved gas concentration measuring sensor device	PROBLEM TO BE SOLVED : To prevent a gas bubble from permeating a separation membrane to enter a gas chamber. SOLUTION : A separation membrane type dissolved gas concentration measuring sensor device 1A is attached to the material mounting part 8a of the underwater robot 8 through a connector 9 in a state of being arranged in an angle posture ranging from an angle downward inclined by about 30° in a vertical direction to about 135°. By arranging the separation membrane 5 of the dissolved gas concentration measuring sensor device 1A within an angle range from an angle inclined by about 30° from a horizontal direction to verticality to pass the gas bubble 12 present in a measuring region through the outside of the separation membrane 5 to float the same, the adhesion of the gas bubble 12 to the separation membrane 5 is prevented. COPYRIGHT : (C)2010,	IHI Corporation99	JP2008072806	2008/3/21

132	An image forming device	PROBLEM TO BE SOLVED : To provide an image forming apparatus which can attain a small size of an apparatus main body while satisfying standard for creeping distance determined by TUV specification in a simple structure. SOLUTION : The image forming apparatus has : an electric substrate 112 provided with a high voltage power source circuit part 301 and a primary power source circuit 300; and an insulation sheet 127 installed adjacent to the electric substrate 112. The electric substrate 112 has a slit part 302 formed between the high voltage power source circuit part 301 and the primary power source circuit 300 so that the creeping distance from the high voltage power source circuit part 301 to the primary power source circuit 300 is a predetermined distance or more. In addition, the insulation sheet 127 has a slit part 400 formed in a position corresponding to the position of the slit part 302. COPYRIGHT : (C)2009, JPO&INPIT	Canon Inc1007	JP2007275181	2007/10/23
133	DETECTION DEVICE OF POSITION IN PIPE	PROBLEM TO BE SOLVED : To provide a detection device of a position in a pipe capable of determining sound speed accurately even without information on transmission and reception positions of the sound in the pipe filled with water, and resultantly detecting accurately the position of an inspection device. SOLUTION : The underwater sound 47 emitted from a sound wave transmitter 32 loaded on ROV 11 for inspection is propagated in the water in a PLR pipe 7, and can be received by a sound wave receiver 39 loaded on ROV 13 for support. Each route distance in the PLR pipe 7 of the ROV 11 for inspection and the ROV 13 for support, namely, a relative distance between the ROV 13 for support and the ROV 11 for inspection, is calculated from a difference of each transmission and reception timing of the underwater sound 47 and the underwater sound speed. COPYRIGHT : (C)2008,	HITACHI LTD	JP2006302608	2006/11/8

134	SUBMARINE NETWORK MANAGEMENT SYSTEM, AND SUBMARINE NETWORK MANAGEMENT METHOD, MOBILE DEVICE	PROBLEM TO BE SOLVED : To reduce the burden of works for searching, locating, repairing and replacing the equipment, when a submarine network terminal (repeater) fails in a submarine network. SOLUTION : A submarine network 4 (cable) is laid on the sea bottom 3. A plurality of submarine network terminals (repeaters) 5, 5, ... are installed as the equipment configuring the submarine network 4 throughout the submarine network 4. Abnormality detection notification units 6, 6, ... for notifying an abnormal state are connected, respectively, with the submarine network terminals (repeaters) 5, 5, ... Upon occurrence of an abnormality, a submarine network terminal (repeaters) 5a transmits an abnormality signal to the error detection circuit of an abnormality detection notification unit 6a connected with itself. Upon receiving the abnormality signal, the abnormality detection notification unit 6a sends the abnormality signal to an underwater robot 7 floating in the sea.	NEC CORP	JP2011267020	2011/12/6
135	UNDERWATER CLEANING ROBOT	PROBLEM TO BE SOLVED : To provide an underwater cleaning robot, capable of efficiently cleaning a cleaning object surface such as a fish net in a wide range while stabilizing the traveling relative to irregularities or deflection of the cleaning object surface. SOLUTION : The underwater cleaning robot 1 includes : a cleaning nozzle unit 5 rotatably provided at a lower portion of the robot body 2; and a traveling device 3 for moving the robot body. The traveling device 3 includes first traveling means 36a, 37a, 38a, 39a provided on lateral sides of the robot body, and second traveling means 36b, 37b, 38b, 39b provided respectively in the longitudinal direction of the first traveling means and located above the lower ends of the first traveling means.	YANMAR CO LTD	JP2011210802	2011/9/27

136	Underwater cleaning device	PROBLEM TO BE SOLVED : To reduce cost of cleaning a ship's bottom and hull by realizing partial automation of working processes with the introduction of an underwater robot. SOLUTION : An underwater cleaning device includes wheels, which makes a device body moveable and functions as a floating material, and a thruster-cum-brush, in which a cylindrical cover and a propeller made to work as the thruster and a cleaning brush are coaxially arranged. In the thruster-cum-brush, reduction gears are separately provided for the propeller and the cleaning brush. It is made possible to set the revolution number of each gear individually. COPYRIGHT : (C)2011, JPO&INPIT	National University Corporation Kyushu Institute of Technology504174135	JP2009241592	2009/10/20
137	LOW ENERGY TRANSMITTANCE PAINT FOR TRANSPORTATION VEHICLE	PURPOSE : To obtain excellent impact resistance in addition to optical and thermal characteristics, in a pane consisting of one glass plate and one plastic sheet, by setting light transmittance TLA, energy transmittance TE, a TLA/TE ratio, transmittance TUV and the thickness of the pane to specific values. CONSTITUTION : A pane is constituted of two glass plates and one plastic sheet. One of or both of the glass plates are produced from silica-soda-lime glass of which the whole is colored by iron oxide and have infrared absorbing function. This colored glass is combined with a colored intermediate sheet to be set to below 60% in light transmittance. Further, the colored intermediate sheet has energy transmittance TE so as not only to impart ultraviolet transmittance TUV of below 0.5% to the pane but also to set a TLA/TE ratio larger than 1 to the pane. The whole thickness of the pane is set to 2.5-8 mm.	SAINT GOBAIN VITRAGE	JP07150461	1995/6/16

138	DISPLAY METHOD OF ON-BOARD CONTROL DEVICE FOR UNDERWATER SAILING BODY	PROBLEM TO BE SOLVED : To easily recognize a sailing state of an underwater sailing body. SOLUTION : A display 1 of an on-board control device comprises a horizontal plane projection image display part 2, an X axis direction vertical plane projection image display part 3, and a Y axis direction vertical plane projection image display part 4. The horizontal plane projection image display part 2 is made to display positions of images for which positions of an underwater sailing body AUV, a track 11 thereof, a mother vessel MV, and way points P1, P2, P3 and P4 to be a display object present within a display object area within a three-dimensional space are projected on a horizontal plane. At the X axis direction vertical plane projection image display part 3 and the Y axis direction vertical plane projection image display part 4, positions of images for which the positions within the three-dimensional space of the respective display objects are projected on a vertical plane respectively along an X axis which is a lateral direction in the horizontal plane projection image display part 2 and a Y axis which is a longitudinal direction. The relative positions in a three-dimensional space of the underwater sailing body AUV, the track 11, the mother vessel MV and the way points P1, P2, P3 and P4 are displayed similarly to a trihedral figure and stereoscopically captured.	IHI CORP	JP2011068164	2011/3/25

139	INSULATED CABLE, AND METHOD OF MANUFACTURING THE SAME	PROBLEM TO BE SOLVED : To provide an insulated cable excellent in items required in TUV Standards as a solar cable, and a method of manufacturing the same. SOLUTION : In this insulated cable, a conductor is covered with an insulating resin layer of a two-layer structure including an inside insulating resin layer and an outside insulating layer provided on the periphery thereof. The inside insulating resin layer and the outside insulating resin layer are formed by an insulating resin having the same composition, the insulating resin contains a metal hydroxide (A) and a base resin (B) at a mass ratio (A)/(B) of 1.4-2.5 and contains an antioxidant (C) at a mass ratio of 0.03-0.2 with respect to the base resin (B), the base resin (B) contains ultra-low density polyethylene (D) having a melting point of not more than 60°C and ultra-low density polyethylene (E) having a melting point of not less than 70°C at a mass ratio (D)/(E) of 50/50-85/15, and the insulating resin layer of the two-layer structure is cross-linked.	SUMITOMO ELECTRIC INDUSTRIES	JP2011277950	2011/12/20
140	UNDERWATER INSPECTION DEVICE	PROBLEM TO BE SOLVED : To provide an underwater inspection device for checking and inspecting a narrow spot, for example, the inside of PLR piping of a nuclear reactor. SOLUTION : An inspection ROV 11 connected by a secondary cable 12 from a support ROV 13 migrating in the water in the nuclear reactor 1 and reaching the upper part of a jet pump 6 disassembled already is propelled in a PLP pipe 7. The inspection ROV 11 having an elongate appearance shape is propelled with the long-axis direction adjusted to the pipe length direction, and transfers an image of an inspection portion photographed by a camera from the secondary cable 12 to a control device 15 through a primary cable 14 and displays it on a display device 16. An ITV camera 19 loaded with a stereo camera is input into the nuclear reactor 1 to photograph the support ROV 13, and the image is processed by the control device 15 to operate the position of the support ROV 13. A relative distance between both ROVs is measured from the sent-out length of the secondary cable 12, and the position of the inspection ROV 11 is operated by the control device 15 by utilizing the relative distance and CAD data of the PLR pipe.	HITACHI LTD	JP2005325547	2005/11/10

141	CORE SHROUD WELD INSPECTION SYSTEMS AND METHODS	PROBLEM TO BE SOLVED : To prevent thrust fans, which hold ROV against a core shroud, from increasing the size of the system. SOLUTION : The inspection system includes a remotely operated vehicle 110 with a profile, scanning ability, and reliability that contribute to expanded inspection coverage and reduced inspection time. The profile of the remotely operated vehicle 110 may be curved so as to conform to the surface of the core shroud. The remotely operated vehicle 110 may include : a set of horizontal wheels configured to move the remotely operated vehicle 110 around the circumference of the core shroud; a set of vertical wheels configured to move the remotely operated vehicle 110 along the axis of the core shroud; and a vacuum system configured to press the remotely operated vehicle 110 against the core shroud.	GE HITACHI NUCLEAR ENERGY AMERICAS LLC	JP2011258403	2011/11/28
142	Underwater inspection system	PROBLEM TO BE SOLVED : To safely and smoothly lift a launcher with an underwater robot stored therein, whereas to avoid a trouble such as a recovery failure, and cutting of a cable twined around a pipe, when the underwater robot is recovered to the launcher. ŽSOLUTION : In the underwater inspection system, the underwater inspection robot 20 provided with at least a viewing camera 21 and propulsion devices 25-27 is stored in the launcher 4, the launcher 4 is brought down near an underwater part 50 to be inspected using a wire rope paid out from a winch 11, and thereafter, inspection of the part 50 to be inspected is performed by the underwater inspection robot 20 departed from the launcher 4. Lifting of the launcher 4 is guided by a launcher guide 5 provided near the part 50 to be inspected, whereas, a cable 18 paid out together with advancement of the underwater inspection robot 20 is rolled-up by a cable drum 24 provided in the underwater inspection robot 20. ŽCOPYRIGHT : (C)2008, JPO&INPIT Ž	MITSUI SHIPBUILDING ENG	JP2006206136	2006/7/28

143	Underwater inspection device	PROBLEM TO BE SOLVED : To provide an underwater inspecting device capable of traveling in all horizontal directions, while keeping posture of a vehicle, as it is. SOLUTION : In the underwater inspecting device provided with an ROV (remotely operated vehicle) 11 for inspection, capable of traveling under water, an ROV 13 for support connected with this ROV 11 for inspection via a secondary cable 12 capable of traveling under water, a control device 15 connected to the vehicle 13 for support via a primary cable 14 for controlling the ROV 11 for inspection and the ROV 13 for support, the ROV 13 for support has lifting thrusters 34a, 34b for providing a propelling force in a vertical direction and three horizontal thrusters 38a, 38b, 38c, provided in horizontally the same position as a main body for providing propelling forces in mutually different horizontal directions. The control device 15 controls the rotation directions and rotation numbers of the horizontal thrusters 38a, 38b, 38c so that a total propelling force in an arbitral horizontal direction can be obtained, while making the rotation moment of the ROV 13 for support zero. COPYRIGHT : (C)2009,	HITACHI LTD	JP2007148370	2007/6/4
144	Underwater inspection system	PROBLEM TO BE SOLVED : To provide an underwater inspection system capable of simply inspecting the crack or deterioration of a structure present in water at a low cost and to further provide an underwater pipe inspection system adaptable to many existing embedded pipes such as water pipes. SOLUTION : In this inspection system for inspecting an underwater structure having an underwater robot 1 and the control device 5 connected to the underwater robot 1 through a composite cable 7, the underwater robot 1 has a hammering device 3 for hammering the structure being an inspection target and a receiver 4 for receiving the vibration of the hammering device 3. At least two times of the hammering vibrations received by the receiver 4 are compared with each other by the control device 5. COPYRIGHT : (C)2012, JPO&INPIT	MITSUI SHIPBUILDING ENG	JP2010069509	2010/3/25

145	MULTI-FUNCTION INFORMATION HAVING AIR-CONDITIONING NON-RESTED GENERATOR (TYPE CORRESPONDING TO NUCLEAR ACCIDENT AND EARTHQUAKE ACCIDENT) (SEMIPERMANENT FULLY-AUTOMATIC OPERATION GENERATOR TYPE WITH HARMLESS, NON-REFUELING AND NON-RESTED PROPERTIES)	PROBLEM TO BE SOLVED : To solve such a problem that a poverty society has only spread by lawless zone markets in many parts through Japan as shown by a sale and a price raise of goods with no patent manifestation of a patent right because of patent expiration of battery-going-dead by most of technologies, with regard to a conventional air-conditioning cooler, television receiving set, personal computer, information apparatus, internet, wireless apparatus, remote controller, submarine seismometer, tree-climbing robot, underwater robot and underwater fully-automatic photographing apparatus. SOLUTION : It is eagerly desired to inform widely that an era when thermal power generation whose resource is limited and a nuclear power resource are not needed to be used eternally has come by requiring no household electric wiring of an electric appliance at all by means of full automation of all electric appliances, robots and machines, a new double pendulum type mechanical generator with continuous operation for 365 days and for 24 hours per day semipermanently, a new double pendulum type automatic rechargeable battery, new high output technologies such as high output hydroelectric generator and high output motor or the like, and a new high output generator circuit technology.	TARUNO KAZUO	JP2011157997	2011/7/19

146	EXPLORATION METHOD OF UNDISCOVERED SEA-FLOOR HYDROTHERMAL DEPOSIT AND EXPLORATION SYSTEM OF UNDISCOVERED SEA-FLOOR HYDROTHERMAL DEPOSIT	PROBLEM TO BE SOLVED : To efficiently specify a position of sea-floor hydrothermal deposit present in the seabed. SOLUTION : A sound tomography device 10 is used for observing change of seawater density based on information of transmission and reception of sound among two or more places of the seabed, a region where the change of seawater density produces is specified using the sound tomography device 10, it is estimated that a hydrothermal plume 42 is present in the region, an autonomous underwater vehicle (AUV) 30 is moved to the region, the state of sea water is measured using the autonomous underwater vehicle 30, the hydrothermal plume 42 flowing from the sea-floor hydrothermal deposit 40 is detected based on the measurement results, a region where the hydrothermal plume 42 is detected is determined as a position of the sea-floor hydrothermal deposit 40. According to such a method, the sea-floor hydrothermal deposit can be efficiently explored, which allows, for example, the reduction in profit margin costs when metal resources of the sea-floor hydrothermal deposit are used. COPYRIGHT : (C)2011, JPO&INPIT	CENTRAL RES INST ELECT	JP2010019793	2010/1/29
147	PHOTOGRAPHING DEVICE AND UNDERWATER ROBOT LOADED WITH THE PHOTOGRAPHING DEVICE	PROBLEM TO BE SOLVED : To provide a photographing device which acquires images in many directions with one camera and which is low-cost and small, can acquire same image information (information on an image in which the right and left are not reversed) as the case of observing images with the naked eyes, and does not require a large-scale system for image processing, an underwater robot loaded with the photographing device, and an underwater robot which remarkably improves efficiency of inspection work for a water pipe or the like. SOLUTION : The photographing device 1, which can simultaneously acquire images in many directions with one camera, has a camera 2 which acquires the images, a plurality of side mirrors 3 arranged on the sides of the camera 2, and a reflecting mirror 4 arranged in front of the camera 2, wherein the side mirrors 3 and the reflecting mirror 4 are constituted of plane mirrors, image information I on the sides of the camera 2 is projected on the reflecting mirror 4 from the side mirrors 3, and the reflecting mirror 4 is photographed with the camera 2 to acquire the images. COPYRIGHT : (C)2011, JPO&INPIT	MITSUI SHIPBUILDING ENG	JP2010020030	2010/2/1

148	BIAXIALLY-ORIENTED POLYESTER FILM FOR SOLAR CELL REAR SURFACE SEALING	PROBLEM TO BE SOLVED : To provide a biaxially-oriented polyester film for solar cell rear surface sealing and having low haze. SOLUTION : The biaxially-oriented polyester film for solar cell rear-surface sealing is a biaxially oriented polyester film containing an ultraviolet absorbent, wherein the average value of light transmittance in a light wavelength range of 400-650 nm (Tave) is 75.0% or higher, as well as; light transmittance at a light wavelength of 380 nm (Tuv) is 60.0% or lower; the content of antimony element in the polyester film is 10 ppm or less; the content of titanium element is 20 ppm or less; the a content of phosphorus element is 170 ppm or less; the amount of terminal carboxyl group is 26 equivalent weight/t or less; and the limiting viscosity is 0.65 dl/g or higher.	MITSUBISHI PLASTICS INC	JP2010015221	2010/1/27
149	APPARATUS FOR CONTROL OF VEHICLE SPEED	PROBLEM TO BE SOLVED : To prevent the occurrence of the needless front and rear slip of right and left wheels in a turn state of a vehicle, by properly controlling each electric motor for drive of right and left wheels, in an in-wheel motor vehicle. SOLUTION : In this apparatus, the center (point O) of turn of the vehicle is decided, based on the steering angle δfg and the steering geometry (Rov=L/tan(δfg)). The target angular velocity ωot is calculated, based on this center of turn and the ordered car speed set by a driver. The target wheel velocity Vwt [**] of each wheel is decided, based on this target angular velocity and the range Row [**] of each wheel from the center of turn. Hereby, the target wheel velocity of each wheel is decided individually so that a wheel speed difference between wheels caused by a travel locus difference between wheels may be secured. The current application states of electric motors arranged respectively in each wheel are controlled individually so that the actual wheel velocity may come close to the target wheel velocity. Needless front and rear slip caused by the travel locus difference between wheels can be compensated.	ADVICS CO LTD	JP2009296919	2009/12/28

150	The method and system of submarine drill to drill system	A subsea drilling system includes a drilling module having a tool carousel being removable and replaceable in or out of water, a skid module and an ROV to be connected to and disconnected from the skid module in or out of water, for operating the subsea drilling system with the ROV. A method for operating a subsea drilling system includes removing a tool carousel from a drilling module and replacing the tool carousel with another tool carousel, in or out of water. An ROV is connected to a skid module and disconnected from the skid module in or out of water. The subsea drilling system is operated with the ROV.	PERRY SLINGSBY SYSTEMS INC	JP2010542403	2009/1/12
151	The intake air amount of an internal combustion engine having means for determining and related method	In an internal-combustion engine (1), comprising at least one cylinder 2), at least one intake pipe (5) and at least one exhaust pipe (6) associated to the cylinder (2), at least one intake valve (3) and at least one exhaust valve (4), which control passage through said intake and exhaust pipes (5, 6), there are provided first sensor means (11) for detecting the temperature (T uv) in said intake pipe, second sensor means (10) for detecting the pressure (p uv) in said intake pipe, third sensor means for detecting the engine r.p.m. (rpm), and fourth means (12) for detecting or calculating the temperature (T exh) in said exhaust pipe. An electronic control unit pre-arranced for receiving the signals at output from said first, second and third sensor means (10, 11) calculates the amount of fresh air taken in by the engine on the basis of a mathematical model that is of general applicability and that, in particular, is applicable irrespective of the technological implementation specifically used for a system (13) for variable valve	C R F Societa Consortile per Azioni	JP2007023986	2007/2/2

152	Operation control method, and device for underwater robot program	PROBLEM TO BE SOLVED : To provide a control method of an underactuated autonomous robot for requiring no information on the location of an obstacle in advance. ŽSOLUTION : This operation control method of an underwater robot includes : generating a value function without considering the location of an obstacle with an origin as a goal; searching the location of the obstacle each time a new obstacle is detected; generating a target orbit location in each time step until the underwater robot reaches the goal without colliding with the obstacle; evaluating the approach to the target orbit location based on numerical values when the underwater robot takes each action; giving a priority order to each action according to the evaluation value; calculating the probability of the underwater robot to collide the obstacle when the underwater robot takes each action; deciding whether or not the probability of the underwater robot to collide with the obstacle when it takes such an action in the descending order of the priority is smaller than a fixed threshold; repeating processing to select the action until the action is selected when decided that the probability of the underwater robot to collide with the obstacle is smaller; and controlling the underwater robot to follow the selected action. ŽCOPYRIGHT :	NTT4226	JP2006227431	2006/8/24
153	The liquid tank venting system	The system consists of a float valve (1) connected to an air duct (4), and an inner closed chamber (2) with a discharge system. The float valve is situated outside the closed chamber, which has an overflow preventer (ISR) and/or roll-over valve (ROV) at the top. The inner chamber is emptied by means of a second float valve (21) beneath it, located in a plunger duct and having a tip (22) opening or closing an aperture in the base (23) of the chamber.	Solvay (Societe anonym)591001248	JP2000045192	2000/1/18

154	Water cleaning robot	PROBLEM TO BE SOLVED : To prevent relatively large foreign matter such as alga or dead fish from entering an introduction space and inhibiting rotation of propellers. SOLUTION : The underwater cleaning robot is for cleaning an object to be cleaned by moving along the surface of the object to be cleaned existing underwater and jetting high pressure water toward the surface of the object to be cleaned by a cleaning nozzle unit 3. The cleaning nozzle unit 3 is attached to a rotary shaft 5 installed in the robot main body 2 in a freely rotable manner to rotate by reactive force of the high pressure water jetting to the surface of the object to be cleaned and propellers 4 for generating impelling force to push the robot main body toward the surface of the object to be cleaned are installed in the rotary shaft and an introduction space D for introducing water by the rotating propellers is installed in the robot main body and foreign matter contamination prevention means 7 for preventing contamination of foreign matter in the introduction space D is installed in the robot main body. COPYRIGHT : (C)2007, JPO&INPIT	Yanmar Co Ltd6781	JP2006068740	2006/3/14
155	IN-LIQUID WORKING APPARATUS AND IN-LIQUID WORKING METHOD	PROBLEM TO BE SOLVED : To perform various works at a remote point from a target site in water of a storage pool even if the space is narrow and obstacles are present. SOLUTION : Remote control movable bodies ROV 6, 17, and 26 that move under water are provided with an electric winch 8 and a suction pad 6a connected to an air sac 6b, an endoscopic camera 22 and a sampling head 29. They are controlled using a console 13 or the like from the outside of a storage pool 1, so as to perform a work to transfer a vessel 2 from an inspection spot while adsorbing and holding the vessel 2 with the suction pad 6a, a work to observe the move trace using the endoscopic camera 22, or a work to collect substances adhering to the wall surface of the storage pool using the sampling head. COPYRIGHT : (C)2010, JPO&INPIT	HITACHI GE NUCLEAR ENERGY LTD	JP2009270972	2009/11/30

156	Guiding device for underwater vehicle	PROBLEM TO BE SOLVED : To dock an underwater traveling vehicle to an underwater station or the like without using an acoustic signal. SOLUTION : In the guidance device for the underwater traveling vehicle, light sources 2-5 are arranged on the underwater station 1 to which AUV 10 traveling underwater by a built-in power source is docked with a predetermined gap in a vertical direction and a left/right direction and an image recognition device for image-recognizing a position relationship of the AUV 10 relative to the light sources 2-5 and determining the position of the AUV 10 is provided on the AUV 10. A steering control device for controlling the position of the AUV 10 relative to the underwater station 1 determined by the image recognition device to correct docking attitude by the built-in power source is provided to dock the AUV 10 to the underwater station 1 using	Kawasaki Shipbuilding Corporation502400005	JP2004004177	2004/1/9
157	DISPLAY USING POLYMER ACTUATOR	PROBLEM TO BE SOLVED : To provide a display using a polymer actuator in which the colors of displayed letters are changed simply and at a low cost. SOLUTION : When a light source 7A is turned on while an actuator element 1 is bent, a first letter display "8" provided on the surface 21A of an operation key 21 is illuminated and displayed via a lighting region 21a. Similarly, when a light source 7B is turned on while an actuator element 1B is bent, a second letter display "TUV" provided on the surface 21A of the operation key 21 is illuminated and displayed via a lighting region 21b. By adopting LEDs having different emitting colors as the light sources 7A , 7B, the colors of the displayed letters are changed simply and at a low cost. COPYRIGHT : (C)2010,	ALPS ELECTRIC CO LTD	JP2008203568	2008/8/6

158	Device for recovering marine vehicle or an underwater vehicle	Apparatus for recovering a surface marine vehicle or an underwater vehicle, in particular an AUV, the apparatus comprising a frame (14) defining a housing into which the vehicle (1) can penetrate via an entrance, and further comprising : reception means (18) for receiving the nose of the vehicle (1), reception means being capable of moving along said housing when the vehicle penetrates therein, said reception means (18) possessing sufficient freedom of movement relative to the frame (14) to be able to follow the movement of the vehicle while the reception means and the vehicle are situated in the vicinity of the entrance of the housing; and guide means (58, 60) for guiding the reception means (18) when the vehicle penetrates into the housing, and for causing the reception means (18) and the vehicle (1) to become aligned therealong by progressively limiting their freedom to move relative to the frame as the vehicle penetrates into the housing.	INSTITUT FRANCAIS DE RECHERCHE POUR L9EXPLOITATION DE LA MER(IFREMER)	JP2009521319	2007/7/25
159	An underwater vehicle or marine vehicle equipment for recovering and method	An installation and methods for recovering and/or launching a surface marine vehicle or an underwater vehicle (1), in particular an AUV, from a recovery base (5). The installation comprises a floating cage (10) defining a housing (16) in which at least a portion of said vehicle (1) can penetrate, first puller means mounted on said cage and capable of pulling said vehicle into said housing, via a first flexible connection, typically a cable (22), and second puller means (7) for mounting on the recovery base (5) and capable of pulling said cage via a second flexible connection (9, 70) distinct from the first.	INSTITUT FRANCAIS DE RECHERCHE POUR L9EXPLOITATION DE LA MER(IFREMER)	JP2009521320	2007/7/25

160	Furnace inspection device	PROBLEM TO BE SOLVED : To allow an easy moving approaching operation for an ROV even in a narrow place inside a nuclear reactor. SOLUTION : The ROV 1 is conveyed to a reactor bottom part under the condition where the ROV 1 is mounted on an ROV receiving table 11, using a launcher 2 provided with at least the ROV receiving table 11, a monitoring camera 13 and a cable handling part 14, is moved therein to a side by the ROV receiving table 11 to be removed to an outside of the launcher 2, and is floated in water. Handling for a tether cable 5 in a lower part of an inspection object is supported therein by the cable handling part 14, and an operation of the ROV 1 floating in an upper side is monitored by the monitoring camera 13 to allow the easy moving approaching operation for the ROV 1 even in the narrow place. COPYRIGHT : (C)2005, JPO&NCIPI	HITACHI LTD; JAPAN ATOMIC POWER	JP2003113259	2003/4/17
161	LAMINATED POLYESTER FILM FOR ANTIREFLECTION FILM	PROBLEM TO BE SOLVED : To provide a laminated polyester film for antireflection film which improves the bright part contrast of a display when disposed on the uppermost surface of an electronic display, and has a sufficient heat resistance even in case mounted on a film type optical filter. SOLUTION : The laminated polyester film for the antireflection film composed of at least three layers contains a light absorber and an ultraviolet absorber in its inner layer and has the coating layers provided on both sides thereof in a film manufacturing method and characterized in that the average value (Tave) of light transmittances at a wavelength of 400-650 nm is 25-80% and light transmittance (Tuv) at a wavelength of 380 nm is 5.0% or less. The coating amount of one side coating layer is 0.03-0.5 g/m2, and the other side of coating layers contains 10-50 wt.% of a crosslinking agent resin. COPYRIGHT : (C)2009, JPO&INPIT	MITSUBISHI PLASTICS INC	JP2007310827	2007/11/30

162	The launcher for underwater robot	PROBLEM TO BE SOLVED : To provide a launcher for an underwater robot capable of safely and easily handling the underwater robot and a cleaning tank or the like. SOLUTION : A cage 4 for robot installation is rotatively mounted on an elevator 3 that can ascend and descend freely provided on a launcher guide 2. The elevator 3 and the cage 4 for robot installation are made to be reversible and capable of being turned over. At a portion in a water passage of the launcher guide, a lower opening 6 is provided that does not disturb the rotation of the cage for robot installation. At a portion outside the water passage of the launcher guide, an upper portion opening or a cleaning tank recovery port 5 is provided that does not disturb the rotation of the cage for robot	CHUGOKU ELECTRIC POWER; MITSUI SHIPBUILDING ENG	JP11105713	1999/4/13
163	EXPANSION AND CONTRACTION ACTUATOR	PROBLEM TO BE SOLVED : To provide a drive mechanism not using a slide part seal requiring periodical replacement in a submerged robot and the like. SOLUTION : An electrical wire penetration part 25 in which an electrical wire 26 for electric power supply and the transfer of a control signal to the inside of an airtight chamber is electrically insulated and penetrates an end plate in a state that pressure resistance and airtightness for withstanding a pressure difference between an inside and an outside is provided in a linear motion mechanism unit 10 having a linear motion mechanism element 11 comprising a spiral screw shaft 20, a female screw (motor rotor) 21, and a motor stator 22 built in an airtight chamber 40 comprising an end plate A23, an end plate B23a, and a stretchable cylindrical film member 30, and the airtight chamber is filled with liquid 50 having an electrical insulation property. Consequently, an expansion and contraction actuator suitable to used underwater or under the sea is provided. COPYRIGHT : (C)2009, JPO&INPIT	MHI SOLUTION TECHNOLOGIES CO L	JP2007167360	2007/6/26
164	Underwater robot steering method and underwater		MITSUI SHIPBUILDING ENG	JP2004063447	2004/3/8

165	LAMINATED POLYESTER FILM FOR ANTIREFLECTION FILM	PROBLEM TO BE SOLVED : To provide a laminated polyester film for an antireflection film which enhances the bright part contrast of a display when arranged on the uppermost surface of an electronic display, is suppressed in the interference irregularity caused by the reflection of external light and has sufficient heat resistance even in a case mounted on a film type optical filter. SOLUTION : The laminated polyester film for the antireflection film composed of at least three layers contains a light absorber and an ultraviolet absorber in its inner layer and has the coating layers provided on both sides thereof in a film manufacturing method and characterized in that the average value (Tave) of light transmittances at a wavelength of 400-650 nm is 25-80% and light transmittance (Tuv) at a wavelength of 380 nm is 5.0% or below. The average value (Rave) of the absolute reflectivities of light with a wavelength of 400-800 nm on the coating surface of one side of the film is 4.5% or above and the coating layer on the opposite surface of the film contains 10-50 wt.% of a crosslinking agent resin. COPYRIGHT : (C)2008, JPO&INPIT	MITSUBISHI POLYESTER FILM CORP	JP2006222464	2006/8/17
166	TOWING ROPE MOUNTING METHOD	PROBLEM TO BE SOLVED : To provide a towing rope mounting method capable of safely and easily mounting a towing rope on a hull even when a diver cannot approach a non-controllable ship. SOLUTION : An underwater robot 6 with a towing rope 4 fixed thereto is remotely operated from a rescue boat 3, moved through an annular part of a stern structure of a non-controllable ship 1, and subjected to a U-turn and collected. COPYRIGHT : (C)2008, JPO&INPIT	MITSUI SHIPBUILDING ENG	JP2006213763	2006/8/4

167	TOWING ROPE ATTACHMENT DEVICE, AND UNDERWATER ROBOT MOUNTED WITH THE SAME	PROBLEM TO BE SOLVED : To provide a towing rope attachment device capable of safely and reliably mounting a towing rope on a hull by making use of a remotely operating means even if a diver cannot approach a non-controllable ship. SOLUTION : An attachment device 1 of a towing rope 2 constituted so as to freely move a mounting hook 3 fixed to the towing rope 2 is mounted to an underwater robot 30, and the mounting hook 3 is mounted to a rudder post 61 or a shoepiece 63 forming a stern structure 52 of a non-controllable ship 50. COPYRIGHT : (C)2008, JPO&INPIT	MITSUI SHIPBUILDING ENG	JP2006213770	2006/8/4
168	UNDERWATER CLEANING ROBOT	PROBLEM TO BE SOLVED : To improve the efficiency of a cleaning operation, and adapt to a long-distance cleaning when epiphytic organisms such as sea mussels are cleaned. SOLUTION : This underwater cleaning robot comprises a scraping device 3 scraping epiphytic organisms on a wall of a water passage, a suction port 4 sucking the epiphytic organisms scraped by the scraping device 3, and moving means moving in contact with the wall. A crushing device 7 for crushing the epiphytic organisms sucked from the suction port 4 is provided in a crushing device accommodation part 16 communicated with the suction port 4, and fragments of the epiphytic organisms crushed by the crushing device 7 are discharged in the water passage. COPYRIGHT : (C)2008, JPO&INPIT	MITSUI SHIPBUILDING ENG	JP2006189609	2006/7/10
169	Water cleaning robot	PROBLEM TO BE SOLVED : To provide an underwater scavenging robot that is capable of precisely controlling traveling of the underwater scavenging robot the traveling wheel of which runs in contact with the ground to scavenge. SOLUTION : A plurality of traveling scavenging equipments 3CF, 3RL and 3RR that scavenge the grounded surface of the outer periphery of the traveling wheel 18 by rotating a scavenging tool 27 are installed at the outer periphery of the traveling wheel 18 of the robot body 2.	CHUBU ELECTRIC POWER; HITACHI SHIPBUILDING ENG CO	JP2001304772	2001/10/1

170	IMAGING DEVICE	PROBLEM TO BE SOLVED : To provide an imaging optical system which does not easily generate a flare and in which the curability of an ultraviolet curing type adhesive is excellent. SOLUTION : The imaging optical system 102 comprises an imaging element 154 with a light receiving surface, cover glass 156, a first optical member 158 and a second optical member 160. The cover glass 156 is disposed on the front surface of the light receiving surface of the imaging element 154. The first optical member 158 has a diaphragm 162 for shielding an unneeded luminous flux made incident along the direction of the optical axis O of an objective optical system unit 22a on one surface and the other surface is bonded to the cover glass 156 with the ultraviolet curing type adhesive AUV. The second optical member 160 is bonded to one surface of the first optical member 158 with the ultraviolet curing type adhesive AUV.	OLYMPUS MEDICAL SYSTEMS CORP	JP2006133933	2006/5/12
171	SYSTEM USED FOR 3-DIMENSIONAL COMPUTER GRAPHICS EQUIPMENT FOR DISPLAYING GAS-LIKE OBJECT ON 2-DIMENSIONAL DISPLAY	PROBLEM TO BE SOLVED : To provide a circuit which can alleviate a hardware capacity, etc., and which calculates an RGB illumination factor which can attain 3-dimensional computer graphics in real time. SOLUTION : A system used for 3-dimensional computer graphics for calculating the RGB illumination factor fundamentally comprises a means for obtaining a device coordinate (xi-, yi), a damping density Dz, and a texture value Tuv, a light factor LightFactor and RGB colors of particle, a means for saving an accumulating density in relation to the device coordinates, and a means for calculating the RGB illumination factor using the acquired device coordinate, the Dz, the Tuv, the LightFactor and the RGB colors of the particle, and the accumulated density relevant to the coordinate.	DIGITAL MEDIA PROFESSIONAL KK	JP2006121498	2006/4/26

172	The moving body of water and water moving body, the angle measuring device measuring method	PROBLEM TO BE SOLVED : To provide a wide-area position measuring system capable of measuring own position over a wide area. ŽSOLUTION : In this wide-area position measurement system for measuring the position of an underwater object by using sound, a sound wave signal of an extremely low frequency is transmitted. The wide-area position measurement system has sounding devices (pingers or transponders) 1-3 for transmitting the sound wave signal of the extremely low frequency; a filter-equipped wave receiver 11 provided in an AUV 10 receiving each the sound wave signal transmitted from each the sounding device 1-3; and an arithmetic processing part 103 for measuring the position of the AUV 10, on the basis of the sound wave signal received by the filter-equipped wave receiver 11. ŽCOPYRIGHT :	JAMSTEC; MITSUBISHI HEAVY IND LTD	JP2005356723	2005/12/9
173	The glass plate window glass manufacturing	This invention concerns glass sheets made from a glass containing, in percentages by weight, from 0.85 to 2% of total iron expressed in the form Fe2O3, the content by weight of FeO being from 0.21 to 0.40%, said sheets having, for a thickness of from 2 to 3 mm, a factor (TLA) of at least 70%, a factor (TE) less than 50% and a factor (TUV) less than 25%. The sheets according to the invention are more especially intended for the production of lateral panes for automobile vehicles.	SAINT GOBAIN BITORAAJIYU INTERNATL	JP08527342	1996/3/14
174	BUSINESS TRANSACTION METHOD FOR IMPROVING RISK MANAGEMENT AND LIQUIDATION RELATED TO NONMARKETABLE ARTICLE	PROBLEM TO BE SOLVED : To provide a new transaction method that evaluates the intrinsic value of a nonmarketable article more accurately, increases a risk management function therefor and promotes the liquidation thereof by using a real option. SOLUTION : The business transaction method prepares a calculation process sheet A representing the calculation of a real option value on a spreadsheet using an ROV model, an evaluation sheet B explaining the intrinsic value of an article subject to real option contract, and a real option contract C describing all the conditions necessary for a transaction, including a real option price, a contract maturity date and a strike price; and posts an advertisement on a website. The use of the series business transaction method can evaluate the intrinsic value of a nonmarketable article more accurately, and can secure the volatility of the article, commercialize the article, increase the liquidity thereof and promote transactions by issuing a real option. COPYRIGHT : (C)2007, JPO&INPIT	ALPHAPOINT CONSULTING LLC	JP2006056938	2006/2/3

175	Underwater loader and substrate processing device using the same	PROBLEM TO BE SOLVED : To provide a underwater loader for effectively preventing any substrate from flipping out from a cassette, and for efficiently extracting the substrate and a substrate processor using the underwater loader. SOLUTION : A plurality of substrates W are housed in a cassette being laminated, and immersed in a water tank 12 in a waiting state. At the time of carrying the cassette by a carrying robot 20, the cassette is allowed to float. The water tank 12 is provided with a flip controlling member 70 for preventing the substrate W in each stage of the cassette from flipping out from the cassette in the elevating direction of the cassette. Thus, even when a water flow is generated in the water tank 12, the substrate can be prevented from flipping out from the cassette. At the time of elevating the cassette for extracting the arbitrary substrate W in the cassette, the cassette can be elevated while the substrate W is controlled in the cassette.	DAINIPPON SCREEN MFG	JP11311437	1999/11/1
176	UNDERWATER PAINT FILM-REPAIRING METHOD AND APPARATUS	PROBLEM TO BE SOLVED : To enable hazardous works by a robot, using an underwater inspection/repairing painting vehicle, for remotely scanning each work of an inspection for painting the inside of S/C, blister elimination, repairing painting, and film thickness inspection by a diver that is being discussed with the conventional method. SOLUTION : With underwater works, such as blister elimination and repairing paint requiring human visual inspection and repairing, each kind of work tool is installed in an XYZ scanning mechanism, that is mounted to an underground vehicle 100 that is steered remotely underwater in the S/N of a nuclear power plant, work such as blister detection/removal, and repairing paint is executed by the underwater vehicle 100, and the positional deviation of the underwater vehicle 100 is prevented by the pressing of the vehicle itself, using a thruster that the underwater vehicle 100 itself preserves, thus securing work position.	HITACHI LTD; HITACHI ENG CO LTD	JP2002052566	2002/2/28

177	OIL FILM DETECTOR AND OIL FILM DETECTION METHOD	PROBLEM TO BE SOLVED : To accurately detect the formation of an oil film over a wide range, using a simple optical system. SOLUTION : This oil film detector is equipped with a color imaging device (4) for imaging rainbow color pattern formed by the oil film (R) and an image processor (5) for processing the image photographed. The image processor (5) is equipped with a microregion setting means (M1) for dividing the photographed image (IMG) into microregions (Auv) having a predetermined size, a color distribution measuring means (M2) for calculating color distribution data (Kcuv), which is obtained by numerically measuring the distribution state of the colors contained in the respective microregions (Auv), for each microregion (Auv) and a determination means for determining the formation of the oil film, based on the color distribution date (Kcuv) of the respective microregions (Auv).	IWASAKI ELECTRIC CO LTD	JP2005342414	2005/11/28
178	Robot for repairing nuclear reactor	PROBLEM TO BE SOLVED : To provide a robot for repairing nuclear reactor which is small and thin and capable of accessing a narrow place in which jet pumps are disposed across the entire circumference such as the outer surface of a reactor core shroud. SOLUTION : A body 2 which can be accommodated under water is provided with a propeller 4 for propulsion, sticking mechanisms by suction 10 and 13, in a plurality of vertical stages, and a laser welder 5. The propeller 4 and absorbing mechanisms 10 and 13 allow movement under water and sticking by suction to a wall surface. While sticking by suction, to the wall surface, movement on the wall surface is allowed by the sticking mechanisms 10 and 13, and while sticking to a prescribed position of an in-reactor structure, repairing/welding of the in-reactor structure is made possible under water. COPYRIGHT : (C)2003, JPO	TOSHIBA CORP	JP2001360082	2001/11/26

179	FISH ROBOT STRUCTURE	PROBLEM TO BE SOLVED : To provide a fish robot whose behavior is similar to natural fish, such as flexibly swinging the rear part of its trunk including its caudal fin, easily controlling the movements, when floating and sinking. SOLUTION : The fish robot is covered with a skin 11 of rubber-like elastic body. In order that air within the skin 11, except that enclosed by a rigid body is discharged easily by water entering inside of the skin 11, when the fish robot is dipped underwater, the residual part excepting for the part enclosed by the rigid body communicates with the outside of the skin 11 wrapping it. Within the rear part 15 of the trunk including the caudal fin 16, a sheet of swinging plate 25 which is easy to deform elastically and can swing to the right and left and a rib-like part 30 which supports the skin at the part from its inner surface and which is easy to curve and swing are provided. A driving mechanism 20 swings the rear part 15 of the trunk, including the caudal fin 16 via the swinging plate 25 and the rib-like part 30. 	MHI SOLUTION TECHNOLOGIES CO L	JP2005155699	2005/5/27

180	PASSIVE PHASE CONJUGATION UNDERWATER ACOUSTIC COMMUNICATION METHOD AND SYSTEM THEREOF	PROBLEM TO BE SOLVED : To provide a passive phase conjugation underwater acoustic communication method and system thereof with which passive phase conjugation underwater acoustic communication can be carried out with high accuracy without the need for increasing the number of receivers configuring a receiver array. SOLUTION : In the underwater acoustic communication method, an AUV transmits a transmission signal configured with consecutive sets each comprising a probe signal P and a data sequence D as shown in Fig. 2(A), and the receiver array receives the transmission signal. A time-waveform shown in Fig. 2(B-1) indicates the received signal of consecutive sets each comprising a probe signal P' and a data sequence D' received by one of the receivers configuring the receiver array. A correlation waveform between the probe signal and the data sequence received by this receiver is obtained, A time-waveform shown in Fig. 2(C-1) indicates this correlation waveform. Then an adder obtains the sum of correlation waveforms output from all the receivers configuring the receiver array. This results in a data sequence given by the time-waveform shown in Fig. 2(D). The receiver array applies adaptive filter processing to the data sequence to recover a data sequence with a time-waveform from which a noisy signal component is eliminated shown in Fig. 2(E).	JAPAN AGENCY MARINE EARTH SCI	JP2005152184	2005/5/25
181	TRAFFIC INFORMATION SYSTEM USING UNDERWATER ROBOT	PROBLEM TO BE SOLVED : To provide a traffic information system which can be effectively operated even when any disaster occurs by wirelessly transmitting the traffic information of a bridge built across a municipal river observed from a robot on a river since the traffic information of the bridge across the municipal river is especially significant when the disaster occurs. SOLUTION : An underwater robot is disclosed for capturing the water of a river, and for treating it by a water cleaning part and a water quality measuring part, wherein the circumstances of a peripheral environment is captured from a camera, and is subjected to image processing, and effective information is transmitted wirelessly by a communication part. Also, the information is displayed on a display part as it is.	NAGOYA INST TECHNOLOGY	JP2004260797	2004/9/8

182	EQUIPMENT FITTING VESSEL	PROBLEM TO BE SOLVED : To improve detection accuracy of the position of a ROV by compact structure. SOLUTION : This equipment fitting vessel is provided with a propulsion machine, and fits a transponder for detecting the position of the ROV to be used for survey and investigation, etc., and more than three transducers on a hull. The vessel is provided with a transducer lifting device having a supporting member mounted with the transducers and a moving mechanism for linearly moving the supporting member. The transducers are located at the inside of the hull in stored states and are put in the water by being projected to an oblique side from an opening part of the hull by being linearly moved when used. The vessel is provided with a transducer lifting device having a supporting member mounted with the transducers and a moving mechanism for moving the supporting member in a circular-arc shape. The transducers are located to the inside of the width of the hull in the stored states and are put in the water outside the width of the hull by being moved in the circular-arc shape when used. COPYRIGHT : (C)2006, JPO&NCIPI	YAMAHA MOTOR CO LTD	JP2004226213	2004/8/2
183	EQUIPMENT FITTING VESSEL	PROBLEM TO BE SOLVED : To easily elevate a ROV by compact structure. SOLUTION : This equipment fitting vessel is provided with a propulsion machine and fits the ROV to be used for survey and investigation to a hull. The vessel is provided with a ROV lifting device having an elevating mechanism for elevating the ROV from a holding part for holding the ROV at a set position into the water and a moving mechanism for moving the elevating mechanism between a storing position on the hull and an elevating position where the ROV in the holding part is located in the water. The elevating mechanism is moved from the storing position to the elevating position to elevate the ROV from the holding part located in the water.	YAMAHA MOTOR CO LTD	JP2004251125	2004/8/2
184	Device for checking the position of the underwater robot		JAPAN MARINE SCI TECHNOL CENTER	JP08083801	1996/4/5

185	UNDERWATER NUMERAL MARKER	PROBLEM TO BE SOLVED : To provide an underwater numeral marker which is mounted on a robot to be used even at the place deep in the water, inexpensively provided, and simply structured. SOLUTION : The marker is provided with a plurality of marker units arranged like digital numerals, wherein each of the plurality of marker units is composed of : a chalk pressing fixture to mount a chalk thereon; a means for bringing the chalk pressing fixture into contact with and separating from the surface to be inspected; a means for bringing a chalk pressing means into close contact with the surface to be inspected, prior to the marking; and a means for imparting vibration to the chalk pressing means when performing the marking. COPYRIGHT : (C)2006, JPO&NCIPI	ATOX CO LTD	JP2004116427	2004/4/12
186	IMAGE FORMING METHOD AND IMAGE EXPOSURE APPARATUS	PROBLEM TO BE SOLVED : To provide an image forming method by which an image can be formed without passing through a liquid development step after image exposure and a lithographic printing plate excellent in printing durability can be obtained, and to provide an image exposure apparatus suitable for the method. SOLUTION : In the image exposure apparatus, a planographic printing plate precursor 12 attached to an outer drum 20 is subjected to scanning exposure with infrared laser L to form an image corresponding to image information in a recording layer of the planographic printing plate precursor 12. At this time, in synchronism with the exposure of an arbitrary exposure area AIR with the infrared laser L, ultraviolet radiation emitted from a UV light source portion 40 is combined with the infrared laser L, whereby an irradiation area AUV including the exposure area AIR with the infrared laser L is irradiated with ultraviolet radiation. The recording layer of the planographic printing plate precursor 12 contains a photothermal conversion agent and a material capable of forming an area whose surface is hydrophobic under heat, wherein an acid generator and microcapsules housing a cation polymerizable compound are used as the material. COPYRIGHT : (C)2006, JPO&NCIPI	FUJI PHOTO FILM CO LTD	JP2004086527	2004/3/24

187	IMAGING METHOD AND IMAGE EXPOSURE DEVICE	PROBLEM TO BE SOLVED : To provide an imaging method which enables an image to be formed without passing through a liquid development process after image exposure and can give a lithographic printing plate with outstanding resistance to plate wear, and an image exposure device best-suited for this method. SOLUTION : In this image exposure device, an image is formed by scanning and exposing to light an image recording layer of an original lithographic printing plate 12 mounted on an outer drum 20 with the help of an infrared laser beam emitted from an exposure head 26. The image recording layer of the original plate 12 contains a microcapsule encapsulating a polymerizable compound, a polymerization initiator and a photothermal converting agent. In addition, the image exposure device is mounted with an ultraviolet ray irradiation device 38 on the downstream side of the sub-scanning direction of the exposure head 26 on a carrier 68. The ultraviolet ray irradiation device 38 locally irradiates an ultraviolet ray to the irradiation area AUV in the original plate 12. Thus, just before scanning and exposing to light the exposure area AIR of the original plate 12 with the infrared laser beam, the irradiation area AUV including this area is irradiated with an ultraviolet ray UV.	FUJI PHOTO FILM CO LTD	JP2004064164	2004/3/8
188	UNDERWATER VEHICLE AND ITS CONTROL METHOD	PROBLEM TO BE SOLVED : To improve the precision of a picture image picked up by an acoustic sonar of an AUV. SOLUTION : Rudders 1 to 4 are respectively provided in the front and the rear of the AUV 100 and in up/down and left/right directions, and orientation control and course control of the AUV 100 are simultaneously carried out in controlling these rudders 1 to 4. Additionally, the orientation is hard to tilt as an influence of a tidal current is equally received in the front and the rear of a hull by providing the rudders 1 to 4 in the front and the rear. Consequently, it is possible to change or maintain the course while holding the orientation of the AUV 100, to constantly direct the beam direction of the acoustic sonar 7 of the AUV 100 in a desired direction and to improve precision of the picked-up picture image.	MITSUBISHI HEAVY IND LTD	JP2004052926	2004/2/27

189	System, method, and device for monitoring the mobile robot is used in common for a remote detection	Unmanned underwater vehicles (UUVs) are described for use in a swarm weapon system. UUVs use distinctive patterns of communication and organization in order to configure into specific formations for an attack on a specific targets. By receiving sensor data from UUV drones, a lead UUV will make decisions on how to reorganize the grouping according to specific mission parameters. In this way, the UUVs interact with the environment and reorganize into reconfigurations in order to complete a mission. There are numerous applications of squads of UUVs, from submarine, torpedo, mine and diver identification and attack to sentry duty organization.	ニール ソロモン	JP2004517517	2003/4/22
190	STERILIZATION TOILET SEAT LID	PROBLEM TO BE SOLVED : To provide a sterilizing apparatus to be repeatedly used a number of times for a short time for sterilizing the seat of a toilet seat unit, such as a water closet provided with a cleaning seat device using a warm water showering system or provided with a heating seat device, by a simple operation whenever the seat is used regardless of a material for the seat. SOLUTION : A germicidal lamp, etc., is used, having wave length of the three areas of ultraviolet rays UV-A(near-UV), UV-B(middle-UV), and UV-C(far-UV) which provide sterilization power. When a "TUV-C lamp" having extremely strong sterilization power and a long life characteristic among the three is used to be lighted from a near place so as to exhibit a sufficient sterilization effect, the high sterilization effect is obtained in a short period of time of about 15 seconds. A "seat shape far-UV sterilization unit" corresponding to the shape of the seat is devised as a specific method, so as to evenly irradiate the seat with light wave. The sterilizer is mounted on the rear side of the seat lid, so that it can be set onto the seat to be sterilized, correctly, easily, safely and repeatedly as many times.	MURASE HIDEYUKI; HIRAI SATORU	JP2003408141	2003/11/4
191	Method for the automatic control of		ISHIKAWAJIMA HARIMA HEAVY IND	JP07159418	1995/6/26

192	Method for positioning underwater mobile robot	PROBLEM TO BE SOLVED : To easily and accurately position a traveling inspection robot in the reactor water in a reactor pressure vessel. SOLUTION : In a method for positioning an underwater traveling robot 3 which tracklessly travels along a vertical wall face A of a reactor pressure vessel 1 filled with the reactor water 2, while sticking to it, bathometers 13 and 18 are respectively provided at a given datum point P in the reactor water 2, and on the main body of the robot to measure the water depth of each point. The vertical position of the main body of the robot is measured to the pressure vessel 1 by the difference in the water depth detected by the bathometers 13 and 18. At the same time, the main body of the robot is equipped with a light beam projector and a light reflection amount sensor. The light beam projector irradiates light beams B in the direction of in-vessel structures 4 whose positions have already been identified, and the horizontal position of the main body of the robot is detected by the amount of reflection. The position of the underwater traveling robot 3 to the pressure vessel 1 is determined by these vertical and horizontal positions of it.	ISHIKAWAJIMA HARIMA HEAVY IND CO LTD	JP08015708	1996/1/31
193	PHOTOGRAPHING DEVICE FOR RESEARCHING BED ECOLOGICAL SYSTEM	PROBLEM TO BE SOLVED : To provide an underwater robot for remote operation which is small-sized and lightweight and has good operability even when the distance between a camera for bed photography and a bet photographic frame, i.e. photographic area is equal to that of a conventional type. SOLUTION : The photographing device for bed ecological system research is equipped with the underwater robot for remote operation that is operated from on an operation boat or the land to photograph a bed. Further, the bed photographic frame mounted in the front of the underwater robot for remote operation is mounted at nearly 45° from the horizontal surface and the camera for bed photography is mounted orthogonally above the camera for bed photography. Even when the distance between the camera for bed photography and bed photographic frame is the same with a conventional type, the outer shape size of the underwater robot for remote operation is made smaller than that of the conventional type and made lightweight, so that the device can be made small-sized.	NAT INST OF ADV IND TECHNOL	JP2002303501	2002/10/17

194	UNDERWATER ROBOT MONITORING CONTROL DEVICE	PROBLEM TO BE SOLVED : To provide an underwater robot monitoring control device reducing the burden of an operator of an underwater robot by controlling to display a torsional angle of a composite cable simultaneously with displaying the attitude angle of the underwater robot, to issue an alarm when the torsional angle of the composite cable becomes a prescribed value or more and to forcedly stop the rotating operation of the underwater robot. SOLUTION : This underwater robot monitoring control device is provided with a tilt angle sensor detecting a tilt angle of the underwater robot under water and displays the torsional angle and a torsional direction of the composite cable by calculating them based on the signal from the tilt angle sensor.	MITSUBISHI HEAVY IND LTD	JP2002288715	2002/10/1
195	SEARCH ROBOT	PROBLEM TO BE SOLVED : To provide a search robot capable of specifying a searching objective source such as a source of pollution, etc. in an unmanned way. SOLUTION : This search robot 10 free to move underwater (in an underwater region) 100 where a TOC (searching object) 50 exists is furnished with a moving means 2, a sensor 4 to acquire TOC concenration (information of the searching object), a control means 6 to control the moving means to head for a TOC generating source (source of the searching object) by presuming it in accordance with the information the sensor acquires and a transmission means 8 to transmit the information acquired by the sensor to an outside computer in correspondence to an acquired position.	MITSUBISHI HEAVY IND LTD	JP2002292586	2002/10/4

196	POSITION MEASURING SYSTEM AND POSITION MEASURING METHOD	PROBLEM TO BE SOLVED : To provide a broader-based position measuring system which measures a self position in a wide range. SOLUTION : The broader-based position measuring system is characterized by transmitting a sound wave signal of very low frequency, in a broader-based position measuring system which measures a position of an underwater object by using acoustics. The broader-based position measuring system is equipped with sound producing devices (pingers or transponders) 1-3 for transmitting the sound wave signals of very low frequency, echo sounder receivers 11 with filters which are installed in an AUV 10 and receive the respective sound wave signals transmitted from the sound producing devices 1-3, and an arithmetic operation section 103 which measures a position of the AUV 10, on the basis of the sound wave signal received by the echo	JAPAN MARINE SCI TECHNOL CT; MITSUBISHI HEAVY IND LTD	JP2002216944	2002/7/25
197	MULTI-FUNCTIONAL ASSEMBLY OF FUEL SYSTEM, STORING APPARATUS FITTED WITH ASSEMBLY, AND MANUFACTURING METHOD FOR FUEL SYSTEM	PROBLEM TO BE SOLVED : To easily manufacture a fuel system and a fuel storing apparatus having a canister and the fuel system. SOLUTION : A multi-functional assembly 1 has at least two elements 1 and 2 belonging to the fuel system, and they are fixed to the sheath of the fuel storing apparatus and exert different functions in the fuel system, wherein one of the elements consists of the canister while the other consists of a device which exerts at least one of the functions including ROV, IRS, SLV, SPD, ORVR, and OBD, and each element 1/2 has a first connecting component 3 and a second connecting component 4 for allowing assembling independently of the sheath of the storing apparatus and without consolidation of the two elements.	INERGY AUTOMOTIVE SYSTEMS RESEARCH	JP2002235790	2002/8/13
198	A device for positioning of an object in water and method	The apparatus uses a thrust assembly and a ROV to position equipment underwater. A thrust assembly 1 comprises two thrust units 2, 4 mounted on respective ends of e.g. a metal pipe 6 which is suspended in water by lifting rigging 8. The thrust units 2, 4 are each connected to a manifold box 10 by hydraulic supply and return tubes 12. The manifold box 10 is centrally mounted on the pipe 6. Extending from the manifold box 10 are hydraulic supply and return tubes 14. The distal end of the a hydraulic supply tube 14 comprises a male coupling element that is received by a corresponding female coupling element of a remote-operational vehicle (ROV) 16. The ROV 16 is suspended in the water distant from the pipe 6 and the thrust units 2, 4 and has a camera	ウォーカー リチャード; ウォーカー アンドルー ゴードン; ワード ニコラス エドワード	JP2001528049	2000/9/29

199	WATER LEAKAGE DETECTING METHOD OF DEEP WATER INTAKE PIPE	PROBLEM TO BE SOLVED : To provide a water leakage detecting method of a deep layer intake pipe capable of easily detecting water leakage and a water leakage place of the deep layer water intake pipe. SOLUTION : A water filling riser 2 is connected to the vicinity of a drain port 6 in a water intake chamber 3 of the deep layer water intake pipe 1 via a directional control valve 5, and after switching the directional control valve 5 to the water filling riser 2 side, liquid having a specific gravity smaller than seawater is filled up to an intake port 10 of the deep layer water intake pipe 1 from the water filling riser 2, a water level in the water filling riser 2 at this time is recorded, and water leakage is determined by a change in the water level in the water filling riser 2. The depth from a water surface of the water leakage place is calculated by the water level difference, and the vicinity is observed by an ROV so that the water leakage place can be confirmed.	TOA HARBOR WORKS CO LTD	JP2001237711	2001/8/6
200	Underwater robot control device	PROBLEM TO BE SOLVED : To easily avoid an obstacle of at least two sections of the image by a TV camera in the vertical direction and in the right-to-left direction respectively, detecting the intensity of the sections to prepare the control signal, and controlling a moving device by the control signal. SOLUTION : The image signal picked up by a TV camera 2 is transmitted to a control device through a cable, and recorded in a recording device as the video signal. The video signal divides the image A of the TV camera 2 into three sections A1 -A9 in the vertical direction and the right-to-left direction, and the signal of the intensity of the sections A1 -A9 is inputted in a first comparator of a signal processing circuit for comparison, the difference in intensity of the sections A1 -A9 is obtained, and the differential signal is inputted in a signal preparing device to prepare the control signal. This control signal is further inputted in driving devices 12a-12d such as an underwater motor to drive thrusters 6a-6d for steering. The control signal can be rapidly prepared, and obstacles can be easily avoided.	CHUGOKU ELECTRIC POWER; MITSUI SHIPBUILDING ENG	JP08161839	1996/6/21

201	UNDERWATER ROBOT OPERATION SUPPORT SIMULATOR	PROBLEM TO BE SOLVED : To provide an underwater robot operation support simulator supporting operation of an underwater robot performing transfer between wall surfaces in a rectangular waterway. SOLUTION : This underwater robot operation support simulator is constituted by providing an underwater robot simulation model formed by having a robot model 24 calculating a position and an attitude of an underwater robot, a sensor model 25 calculating a measured value of an inclinometer and an ultrasonic sensor, a control logic model 26 performing simulation calculation of PID control to obtain a thrust command value converted into a rotational speed command value, and a thruster characteristic model 27 obtaining thruster thrust. The simulator can be switched between an automatic mode and a manual mode, not to operate the control logic model at manual mode time but operate only the other model, so as to perform simulation of manual operation control of a robot operator by a robot manual operation control means (keyboard 28).	MITSUBISHI HEAVY IND LTD	JP2001210354	2001/7/11
202	UNDERWATER ROBOT	PROBLEM TO BE SOLVED : To provide an underwater robot facilitating robot operation by automating a transfer between the wall surfaces of a rectangular water channel. SOLUTION : The measurement of the roll angle of the underwater robot 2 measured with an inclinometer 5a is fed back to determine a deviation between the measurement of the roll angle and a planned S-shaped roll angle value. A value obtained by multiplying the deviation by a proportional gain K and another value obtained by integrating the deviation and multiplying the integrated value by an integral gain KI are added together and the measurement of the roll angle is time differentiated to determine a deviation between this differentiated value and a planned trapezoidal roll angle velocity value; a value obtained by multiplying this deviation by a differential gain KD is also added to both the value obtained by multiplying the former deviation by the proportional gain and the value obtained by multiplying the integrated value by the integral gain, whereby roll PID control is carried out for determining thrust command values for thrusters 4a, 4b, 4c and 4d. Similarly, floating PID control and landing PID control are carried out according to distance measurements made by an ultrasonic sensor.	MITSUBISHI HEAVY IND LTD	JP2001204220	2001/7/5

203	LOW-TRANSMITTANCE GLASS	PROBLEM TO BE SOLVED : To provide a low-transmittance glass having excellent heat-absorbing properties, high quality and excellent productivity, which is suitable for a window glass used for a passenger car produced by air cooling and tempering. SOLUTION : The low-transmittance glass comprises a soda lime glass comprising 0.001-2 wt.% Li2O and 0.7-2.2 wt.% total iron oxide (T-Fe2O3) on Fe2O3 basis as a color component, wherein the glass having a thickness between 2.1-6 mm has a visible light transmission (YA) of 65% or lower, a total sun light transmission (TG) of 60% or lower, and UV transmission (Tuv) defined in ISO of 25% or lower.	NIPPON SHEET GLASS CO LTD	JP2001188260	2001/6/21
204	Method and device for remote work in nuclear reactor	PURPOSE : To easily, effectively and efficiently conduct a work such as an inspection, repairing, etc., of an equipment in a nuclear reactor by remote work. CONSTITUTION : The apparatus for remote work in a nuclear reactor comprises an equipment handling unit 2 installed at an upper part of a reactor pressure vessel 1, a hollow mast vertically movably supported to the unit 2, suspended in the vessel 1 and inserted into a reactor core 3, a cable 6 passed through the mast 4 and extending from the unit 2 to a lower chamber 5, a swimming robot 8 mounted at an end of the cable 6 to place an inspecting unit or a repairing unit and having an underwater swimming mechanism, and a cable guiding unit 12 having a fastening mechanism to the swimming mechanism and a reactor structure in a size to pass through the mast 4 and a cable guide for longitudinally moving the cable 6.	TOSHIBA CORP	JP05300464	1993/11/30
205	Method for the automatic control of		ISHIKAWAJIMA HARIMA HEAVY IND	JP05333365	1993/12/27

206	THREE-DIMENSIONAL SHAPE MEASURING METHOD AND ITS DEVICE	PROBLEM TO BE SOLVED : To heighten measurement accuracy without raising resolution of an imaging element. SOLUTION : Each illumination area surface of two light sources A1, A2 separated at a prescribed distance is divided as sub-pixels on each meshed point auv by using the points a1, a2 respectively as the origins. While illumination positions are moved respectively on each illumination area surface, hologram interference images on each illumination position are inputted continuously by the imaging element, and a surface area (area circle) of a measuring object equivalent to one pixel of the imaging element is operated as a point projected in a tetragonal lattice shape, to thereby determine a point near actual points g1, g2, ..., gm on the surface of the measuring object.	MAZDA MOTOR	JP2001124810	2001/4/23
207	FISH ROBOT AND UNDERWATER COMMUNICATION APPARATUS	PROBLEM TO BE SOLVED : To provide a fish robot which has plural fins and more realistically simulating fishes having fins at its tail. SOLUTION : This fish robot includes a fish robot body (11) which is provided with a first turning shaft (25) and second turning shafts (191 and 192), a first vane (17) which is pivoted to the first turning shaft (25) and turns around the first turning shaft (25) and second vanes (121 and 122) which are pivoted to the second turning shafts (191 and 192) and turn around the second turning shafts (191 and 192). The first vane (17) is disposed at the tail of the fish robot body (11).	MITSUBISHI HEAVY IND LTD	JP2000336478	2000/11/2
208	SYSTEM FOR VENTILATING LIQUID TANK	PROBLEM TO BE SOLVED : To provide a system for overcoming the defects of known ventilation systems by avoiding the arrangement of a container in a pipe outside of a tank, discharging a liquid held in the container when a liquid level in the tank is lowered, allowing adaptability to the severest environmental standards and causing no excessively high and low pressure in the tank. SOLUTION : The system is a combination of a float for ventilating a fuel tank, capable of ventilation at an inclined position, preventing the spout of a liquid and achieving OPD and ROV functions and gas exhaust function during filling, and a container provided with a discharge system for trapping a few amount of liquid carried along with gas and returning the liquid to the tank.	INERGY AUTOMOTIVE SYSTEMS MAN	JP2001213457	2001/7/13

209	The magnetic sensor and the magnetic probe device	PURPOSE : To obtain a magnetic exploration equipment and A, magnetic sensors which explore metals, a submarine cable laid on the seabed and submarine resources in particular, by detecting very small magnetism. CONSTITUTION : Two triaxial orthogonal type DC magnetic sensors 31A and 31B constructed by combining three magnetic sensors 31AX, 31AY, and 31AZ and 31BX, 31BY and 31BZ in three-axes directions respectively are mounted on an underwater robot, and output signals V1 (x, y, z) and V2 (x, y, z) of these sensors are processed by an arithmetic processing part (CPU 34) through the intermediary of signal converters 32 and an interface circuit 33 and transmitted to an exploration equipment on a ship through a dither cable 11. In order to detect very small magnetism, the variation of a magnetic field at the time when the underwater robot is rotated one time under water is measured and the relationship between the azimuth of the underwater robot and the amount of the variation of the magnetic field is stored in a memory on the ship beforehand. Detection of the magnetic field is executed by subtracting the amount of the variation of the detected magnetic field depending on the azimuth of	KOKUSAI DENSHIN DENWA CO LTD	JP07060130	1995/2/24
210	APPARATUS FOR CARRYING IN OR OUT UNDERWATER ROBOT	PROBLEM TO BE SOLVED : To provide an apparatus wherewith an underwater robot can be smoothly carried in or out of a water channel even when the area of the opening of a carry in or out route is small and the breaking of a composite cable is prevented without fail. SOLUTION : This apparatus 50 for carrying in or out an underwater robot is applied to an underwater robot 10 capable of swimming in water in the state of being connected to the ground side via a composite cable 2, is supported by an ascending/descending carriage 55 capable of ascending or descending together with the robot 10 through a manhole M, and is equipped with a cable guide section 60 having a plurality of guide rollers 62 arranged so as to be able to turn the composite cable 2 connected to the robot 10. In the apparatus 50, the radius of turning of the composite cable 2 is set at 8-10 times the outer diameter of the cable 2, and the arrangement pitch between the guide rollers 62 is set at 5° to 8°.	MITSUBISHI HEAVY IND LTD	JP2000259208	2000/8/29

211	DEVICE AND METHOD FOR BRINGING IN AND OUT UNDERWATER ROBOT	PROBLEM TO BE SOLVED : To provide a device of a simple structure for bringing in and out an underwater robot capable of speedily and smoothly bringing the underwater robot in and out of both the downstream side and upstream side of a flow of water. SOLUTION : The device for bringing the underwater robot 4 comprised of an underwater swimming body in and out of a flow of water from a manhole 2 at a naval of an underdrain channel 1 is provided with a supporting frame 9 raised in such a way as to be moveable to the ground surface of the manhole 2, extendable/contractible guide rails 14 and 15 extended from the supporting frame 9 along the manhole 2, an elevating/lowering rack 20 capable of elevating/ lowering itself over the guide rails 14 and 15, a cable guide 24 mounted to the elevating/lowering rack 20 to guide a composite cable 5, a box-shaped or cage-shaped guide body 21 rotation-freely connected to the lower part of the elevating/lowering rack 20 and capable of adhering by suction to and holding the underwater robot 4 in a flow of water, and a wire 28 stretched between the guide body 21 and supporting frame 9 and extended and	MITSUBISHI HEAVY IND LTD	JP2000078537	2000/3/21
212	The depth setting device for		MITSUBISHI HEAVY IND LTD	JP06020929	1994/2/18
213	ULTRAVIOLET/INFRARED ABSORBING AND LOW-TRANSMITTING GLASS	PROBLEM TO BE SOLVED : To provide a ultraviolet/infrared absorbing and low-transmitting glass having a grey color tone near neutral color and low visible ray transmissivity, solar radiation transmissivity and ultraviolet ray transmissivity and useful as a privacy protecting glass for automobile rear window. SOLUTION : The ultraviolet/infrared absorbing and low-transmitting glass consists of a base glass composition consisting, by weight, 65-80% SiO_2, 0-5% Al_2O_3, 0-10% MgO, 5-15% CaO (MgO+CaO=5-15%), 10-18% Na_2O, 0-5% K_2O (Na_2O+K_2O=10-20%) and 0-5% B_2O_3 and coloring components of 1.0-1.6% total iron oxide (T-Fe_2O_3) expressed in terms of Fe_2O_3, >0.019 to ≤0.05% CoO, >0.008 to ≤0.003% Se and >0.05% to ≤0.1% NiO. The glass has 5-25% visible ray transmissivity (YA) and 5-25% solar radiation transmissivity (TG) measured with a light source A and ≤15% ultraviolet ray transmissivity (Tuv) regulated by ISO at any thickness within 0.1-5 mm.	NIPPON SHEET GLASS CO LTD	JP2000014757	2000/1/24

214	SEMICONDUCTOR INTEGRATED CIRCUIT DEVICE	PROBLEM TO BE SOLVED : To provide a power source circuit which can be redesigned and rearranged in a short period for changing an internal constitution for constituting an array. SOLUTION : Active units AUP and AUV having and active voltage decreasing circuit VDCS which supplies a large current consumed during array activation and a Vpp Pump for generating an increasing voltage are made to be a cell. Required numbers of the active units AUP and AUV are arranged according to an array constitution and an operating	MITSUBISHI ELECTRIC CORP	JP11306572	1999/10/28
215	POST-EMBEDDING SYSTEM AND POST-EMBEDDING METHOD FOR SUBAQUEOUS CABLE	PROBLEM TO BE SOLVED : To provide a post-embedding system and post-embedding method for subaqueous cable that can drastically improve the working efficiency and realize distinctive cost reduction by making unnecessary the monitoring and guiding works of a diver. SOLUTION : An embedding machine 14 for embedding a subaqueous cable 12 previously laid at the bottom 10 into a groove 10a dug at the bottom 10 comprises a monitoring under-water robot (ROV : Remotely Operated Vehicle) 18 having a function to monitor a towing ship 16 for towing the embedding machine 14 from the water surface, subaqueous cable 12 and the embedding machine 14 to transmit the monitoring information to the towing ship 16 and moving independently of the embedding machine 14 and towing ship 16 and a guiding controller 20 for moving the embedding machine 14 along the subaqueous cable 12, by operating the towing ship 16 and guiding the embedding in the predetermined route, based on the transmitted monitoring information.	FUJIKURA LTD	JP11264229	1999/9/17

216	METHOD OF GUIDING AND INSTALLING BURYING MACHINE TO SUBAQUEOUS CABLE	PROBLEM TO BE SOLVED : To provide a method of guiding and installing a burying machine to an subaqueous cable making watch and guide by a diver unnecessary and improving working efficiency remarkably and achieving a sharp cost reduction. SOLUTION : In postburying a subaqueous cable 12 landed on a bottom based on a designated laying route by a burying machine, an underwater robot (ROV) 16 is advanced toward the subaqueous cable 12 landed on the bottom and is located around the subaqueous cable 12. Images taken by an underwater camera and detection results by a magnetic sensor are transmitted to a towing boat 8 and the transmitted images and detection results by a magnetic sensor are monitored on the towing board 8 to confirm location and situation of a subaqueous cable 10. A burying machine 14 is discharged from the towing boat 8 into underwater. Action command to the burying machine 14 is given from on-board while images taken by a camera of the underwater ROV 16 are being monitored, and the burying machine 14 is guided toward the	FUJIKURA LTD	JP11264230	1999/9/17
217	UNDERWATER INSPECTION ROBOT FOR CHECKING IN-TANK FILM	PROBLEM TO BE SOLVED : To provide an underwater inspection robot for checking an in-tank film for inspecting the presence or absence or size of the blister of a wall face in a tank without discharging fluid stored in a tank, or constructing any scaffold, or using any crane or the like. SOLUTION : An underwater light 4 and a camera 5 are arranged in an underwater mobile carrier 3 so that the inspection of a wall face 2 can be realized without discharging fluid in a tank. The underwater mobile carrier 3 can be moved on the wall face 2 in the tank while absorbed to the wall face 2 so that it is not necessary to set any facility such as a scaffold or crane accessible to the whole upper face of the tank. When the irradiating direction of the underwater light 4 is made almost in parallel with the wall face 2 to which the underwater mobile carrier is absorbed, and the photographing direction of the camera is made almost in parallel with the wall face 2 to which the underwater mobile carrier 3 is absorbed, a shadow 17 of blister 16 is formed so as to be easily observed so that the presence or absence or size or number of	ISHIKAWAJIMA HARIMA HEAVY IND CO LTD	JP11169936	1999/6/16

218	UNDERWATER CLEANING MACHINE	PROBLEM TO BE SOLVED : To remove a large amount of shellfishes adhering to a water passage of a power and others efficiently providing the subject machine with advancing, vertically moving, adhering, and horizontally moving thrusters, helm-operable, drivable wheels, and a hoe-shaped cleaning machine for removing deposits adhering to a water passage. SOLUTION : An underwater cleaning robot 40a is made to generate neutral buoyancy and to be able to move freely in a water passage by an advancing thruster 42 fitted to a robot main body 41, vertically moving/adhering thruster 43, a horizontally moving thruster 44, and four helm-operable, drivable wheels 46. A hoe-shaped cleaning machine 11 is fitted to the barrel part 47 of the main body 41, the robot 40a is advanced upstream in the water passage while the cleaning apparatus 41 is pushed to the water passage, and shellfishes such as barnacles adhering to the water passage are scraped/removed by the cleaning machine 11.	MITSUI SHIPBUILDING ENG	JP11175122	1999/6/22
219	METHOD FOR CLEANING WATER PASSAGE	PROBLEM TO BE SOLVED : To prevent an underwater cleaning robot from being lost by holding it by a safety rope when a waterway is cleaned by the robot fitted to the tip of a subaqueous cable in a self-traveling method. SOLUTION : In a robot charge opening 4, i.e., a vertical opening part 17 reaching an intake pipe, a scull-shaped launcher 18 has a cage 19 moved vertically by an elevator, and an underwater cleaning robot 40 is conveyed from the ground 1 into an intake pipe 11 by the cage 19. When the intake pipe 11 is cleaned by the robot 40 in a self-traveling method, when the functions of the robot 40 are stopped by the breakage of a power source and others, or when the robot 40 is separated from the wall of the intake pipe 11 to be moved downstream, the brake of a safety rope winch is actuated to hold the robot 40 by a	MITSUI SHIPBUILDING ENG	JP11175120	1999/6/22
220	METHOD OF GATHERING FISH	PROBLEM TO BE SOLVED : To provide a method for efficiently gathering fishes using underwater- propelled robots. SOLUTION : This method comprises disposing underwater-propelled robots 3 mounted with fishing lamps, and guiding fishes/shellfishes attracted to the respective fishing lamps to economically and massively gather them close to a mother ship 1 and capture them with a fishnet.	FADAMU KK	JP11084457	1999/2/19

221	METHOD OF GATHERING FISH	PROBLEM TO BE SOLVED : To provide a method for efficiently gathering fishes using underwater- propelled robots. SOLUTION : This method comprises efficiently gathering fishes using underwater-propelled robots 3, 3-1... each provided with air issue port(s) and by making use of curtain-like air bubbles 7, thereby capturing the fishes with a small-scale fishnet.	FADAMU KK	JP11084458	1999/2/19
222	COLORED FILM COATED GLASS ARTICLE	PROBLEM TO BE SOLVED : To enhance ability to absorb UV and heat by forming a colored film on a glass substrate having a specified composition. SOLUTION : A glass substrate containing, by weight, 0.9-2.2% (expressed in terms of Fe2O3) total iron oxide (T-Fe2O3), 0-0.2% NiO and 0-0.03% CoO (NiO+CoO≥0.0010%) is prepared. In the composition, FeO accounts for 10-40% of the total iron oxide. The glass substrate has 35-65% luminous transmittance (Ya), ≤50% solar radiation transmittance (Tg), ≤1.5% UV transmittance [TuV (ISO)], a transmission chromaticity a* of -15 to -6, a transmission chromaticity b* of -5 to +8, 480-550 nm dominant wavelength(DW) and ≤11% color stimulus purity(Pe). The glass substrate is coated with a colored film having 50-300 nm thickness and containing 20-70 mol% (expressed in terms of elements) oxides of Si, Al and B as glass skeleton forming constituent elements and oxides of transition metals as coloring components. The amounts of the oxides are 10-50 mol%, 10-50 mol%, 1.0-20 mol% and 0-20 mol% (expressed in terms of Cu, Mn, Ni and Co), respectively.	NIPPON SHEET GLASS CO LTD	JP10317498	1998/11/9

223	SILICA-SODA LIME TYPE GLASS COMPOSITION	PROBLEM TO BE SOLVED : To obtain a glass compsn. having an enhanced UV absorptivity at a low cost by specifying the UV transmittance of a glass compsn. and incorporating specified amts. of Fe_2O_3 and WO_3. SOLUTION : A glass material comprising, by weight, 68.5-74% SiO_2, 7-10% CaO, 0-5% MgO, 0-1.5% Al_2O_3, 0-1% K_2O, 13-16% Na_2O and, optionally, ≤2.2% CeO_2, ≤1% TiO_2 and ≤2% La_2O_3, is prepd., 0.4-1.5 wt.% Fe_2O_3, 0.1-1.2 wt.% WO_3 and, optionally, one or more colorants selected from CoO, Se, Cr_2O_3, NiO and V_2O_5 are added to the glass material and they are melted and vitrified to obtain the objective silica-soda lime type glass compsn. having <15% UV transmittance (TUV.ISO) in 2.85-4.85 mm glass thickness, <50% total energy transmittance (TE) in 3.85 mm thickness, a redox (FeO/Fe_2O_3) of 0.12-0.29 and ≤70% or ≥35% total light	SAINT GOBAIN VITRAGE	JP11033126	1999/2/10
224	GLASS HAVING ABSORPTION AND LOW TRANSMITTANCE TO ULTRAVIOLET AND INFRARED RAY	PROBLEM TO BE SOLVED : To obtain glass having absorption and low transmittance to ultraviolet and infrared ray, having green-gray-based color tone close to neutral color, having low visible light transmittance, solar radiation transmittance and ultraviolet transmittance and useful as glass for privacy protection of rear windows of passenger cars. SOLUTION : This glass having absorption and low transmittance to ultraviolet and infrared ray comprises a base glass composition comprising 65-80 wt.% SiO_2, 0-5 wt.% Al_2O_3, 0-10 wt.% MgO, 5-15 wt.% CaO (MgO+CaO=5-15 wt.%), 10-18 wt.% Na_2O, 0-5 wt.% K_2O (Na_2O+K_2O=10-20 wt.%) and 0-5 wt.% B_2O_3 and 1.1-1.5 wt.% total oxide iron (T-Fe_2O_3) expressed in terms of Fe_2O_3, 0.01-0.019 wt.% CoO and >0.0008 and ≤0.003 Se and 0.055-0.1 wt.% NiO as a coloring component. In the glass having a thickness in a range of 2-5 mm, visible light transmittance (YA) measured by using light source (A) is 10-25 wt.% and solar radiation transmittance (TG) is 5-20 wt.% and ultraviolet ray transmittance (Tuv) specified by ISO is ≤15 wt.%.	NIPPON SHEET GLASS CO LTD	JP10077570	1998/3/25
225	The suction port of the conduit cleaning		MITSUBISHI JUKOGYO KK;	JP05027537U	1993/4/27

226	AUTONOMOUS GUIDANCE DEVICE	PROBLEM TO BE SOLVED : To enable an autonomous underwater robot itself to automatically sail to its target point from its start point just by obtaining the geographical information on both start and target points and the periphery of the sailing sea area by deciding a path class via a global path setting part and deciding a detailed course via a divided path setting part during the sailing of the robot. SOLUTION : An operator previously give the geographical information on the start and target points and the periphery of a sailing sea area including the start point through the target point to a target setting module 1. Based on these information, a global path planning module 2 decides a route, i.e., a global path including true start point through the target point based on the evaluation standard that is previously set. The path class that is decided by the module 2 is given to a local path planning module 3 which decides a course of an autonomous underwater robot during its sailing. That is, both start and target points are locally decided and a course (local path) is decided between the start and target points in response to the maneuverability of the robot.	MITSUBISHI HEAVY IND LTD	JP10051099	1998/3/3
227	PICTURE PROCESSOR	PROBLEM TO BE SOLVED : To enable a picture processor to plot a straight line whose color data are designated by RGB with high quality. SOLUTION : A partial straight line generating means 20 calculates the coordinate values or the start point and end point of each partial straight line based on the coordinate values of the start point and end point of a straight line whose plotting is instructed. A shading instructing means 24 outputs the coordinate value of the start point and end point of a shading range calculated based on the coordinate values of the start point and end point of each partial straight line, and outputs the color data of the straight line and the color data of background designated by RGB as the color data of the start point and end point of the shading range. The color data are converted into the color data of TUV by an RGB/YUV converter 26, and supplied to a frame buffer 4 with a shading function. The frame buffer 4 with the shading function obtains the color data of each picture element which is present between the start point and end point of the shading range by linear interpolation, and stores the data in the pertinent part of the frame	NEC CORP	JP10064683	1998/2/27

228	UNDERWATER INSPECTION CLEANING SYSTEM AND UNDERWATER INSPECTION CLEANING METHOD	PROBLEM TO BE SOLVED : To provide an underwater inspection cleaning system which is suitable for work underwater performing inspection and cleaning of the inside of a tank and a vessel or the inside of a structure filled with liquid by remote operation instead of a person. SOLUTION : The underwater inspection cleaning system is equipped with an underwater inspection robot body 1 loaded with a sensor for underwater inspection monitor, a monitor 4 indicating both underwater inspection monitor information and the operating state of the underwater inspection robot body 1, an underwater cleaning robot body 2 which is loaded with an underwater cleaning mechanism, traveled and moved, a controlling device 3 for operating and controlling the underwater inspection robot body 1 and the underwater cleaning robot 2 and a composite cable 10 for sending and receiving a signal between the underwater inspection robot body 1 and the	TOSHIBA ENG CO LTD	JP09360419	1997/12/26
229	Mobile robot for underwater		MITSUBISHI JUKOGYO KK	JP04061151	1992/2/17
230	PRODUCTION OF STAMP PLATE FACE	PROBLEM TO BE SOLVED : To produce a print plate face having high resolution by forming a mirror image of a print on the protective film of a photosensitive resin plate in the process for making a stamp plate face and then irradiating the mirror image with UV-rays from above the protective film. SOLUTION : A recording medium bonded tightly with a peelable UV-ray transmitting film 2 is employed on the surface of a photosensitive resin layer 3 being rendered insoluble to a specified solution upon irradiation with a specified quantity of UUV-rays. A specified image 1 is then printed on the film 2 of the recording medium with a LV-ray nontransmittible ink and the photosensitive resin layer 3 is irradiated with a specified quantity of UV-rays through the film 2. Subsequently, the film 2 is peeled off and the part on the surface at the photosensitive resin layer 3 not rendered insoluble is removed by the specified solution thus obtaining a protruding and recessed image corresponding to the image printed on the film 2 on the surface of the photosensitive resin layer 3.	MATSUSHITA ELECTRIC IND CO LTD	JP09324104	1997/11/26

231	SUBMERGED OBJECT SEARCHING DEVICE	PROBLEM TO BE SOLVED : To allow a pilot on a support ship to search a submerged object by remotely controlling a ROV under a similar condition to the actual ride on the ROV. SOLUTION : This device includes a ROV 1, a support ship 2, and a transponder 6 for setting a reference point. An underwater laser television 7, a gyro 8, a bathometer 9, and a responder 10 are mounted on the ROV 1. A control board 12, a multiple narrow beam generator 14, a calculator 13, and a display 15 are mounted on the support ship 2. A three-dimensional image of the seabed in a target area 3 of a body of water under normal conditions is generated by means of CG and sampled, and a three-dimensional image of the seabed during searching is generated by means of CG and superimposed on the former image on the display 15, thus allowing a pilot to control the ROV 1 while checking images by superimposing part of an image on the underwater	ISHIKAWAJIMA HARIMA HEAVY IND	JP09322006	1997/11/10
232	UNDERWATER COATING DEVICE	PROBLEM TO BE SOLVED : To provide an underwater coating device which discovers the abnormal point of the coating film of a structure by means of a video camera mounted at a robot and enables safe and smooth coating with remote operation. SOLUTION : This underwater coating device comprises a device body 1 which has a video camera 3, a perpendicular thruster 2 and a horizontal thruster 2' and is remote controllable outside a water tank, a surface prepn. device 4 which is installed to the lower part of the device body 1 and the coating device 5. The image by the video camera 3 is visually inspected outside the water tank, by which the abnormal point of the coating film is discovered. The repair of the point may then be carried out by the remote controllable surface prepn. device 4 and the coating device 5.	ATOX CO LTD; ASAHI DENKA KOGYO KK; KOWA KK	JP09272674	1997/10/6

233	UNDERWATER CLEANING ROBOT	PROBLEM TO BE SOLVED : To prevent an accident such as break of complex cable by controlling a reel device of rope for drawing in resonance with the cable drum of the complex cable and always allowing the cable to always maintain looseness. SOLUTION : For the purpose of always giving tension only to a rope 8 for drawing and not giving tension to a complex cable 2 in operating the complex cable 2 and a cable drum 4 of an underwater cleaning robot when the robot main body 1 is carried in a take-in/take-out water channel with a carriage device 3, a play is provided in advance to the complex cable 2 and the cable drum 4 is operated in resonance to a reel device 9 of the rope 8 for drawing. By always maintaining a play set in advance in the complex cable 2, the tension due to the force drifting the robot body 1 downstream is always given to the rope 8 for drawing and not to the complex cable 2 in the control.	MITSUBISHI HEAVY IND LTD	JP09250606	1997/9/16
234	COLOR PICTURE TUBE DEVICE WITH EXTENSION TYPE SHADOW GRILLE	PROBLEM TO BE SOLVED : To make an apparent screen flatter by making a panel outer face cross section convex with respect to an X-axis direction in the vertical direction and horizontal direction of a screen, when an observer is located on a Z-axis in the vertical direction including the center of the screen, and making a panel inner face cross section nearly linear in the vertical direction and nearly convex to the Z-axis in the horizontal direction. SOLUTION : A vertical axis V cross section of a panel 1 outer face is made convex with respect to an X-axis, its general radius of curvature is ROV, a horizontal axis H cross section is made convex with respect to a Z-axis, and its general radius of curvature is ROH. The vertical axis V cross section of the panel 1 inner face is made nearly linear, its general radius of curvature is set to RIR, the horizontal axis H cross section is made convex with respect to the X-axis, and its general radius of curvature is set to form RIR. By making the panel 1 outer face is made convex with respect to the X-axis the vertical direction cross section of the panel 1 inner face is made linear and the horizontal direction cross section is made convex, the floated quantity on the peripheral of a screen 3 is decreased, and an apparent	MITSUBISHI ELECTRIC CORP	JP09236866	1997/9/2

235	Channel cleaning underwater robot control device	PURPOSE : To improve reliability of a cleaning work by an underwater robot by providing a controller of a motor which is driven by an output signal from a tensile force sensor attached at a coupling part between the underwater robot and a composite cable. CONSTITUTION : A tensile force sensor 16 is attached to a coupling part between an underwater robot 3 and a composite cable 9. A tensile force signal detected by the tensile force sensor 16 is received by a controller 10. Rotational speed of the motor of a cable drum 15 is controlled to make the robot 3 advance/ retreat. Further by controlling start/stop of the motor of the cable drum 15, the composite cable 9 is prevented from winding around the body of the robot 3 or from being subjected to excessive tensile force to cause damage on the composite cable 9 during operation of the underwater robot. Thus reliability of a cleaning work by the underwater robot 3 can be improved.	MITSUBISHI JUKOGYO KK; TOKYO DENRYOKU KK	JP02228738	1990/8/30
236	UNDERWATER PAINT FILM SOUNDNESS MEASURING DEVICE	PROBLEM TO BE SOLVED : To measure the soundness of a paint film coating the surface of an underwater structure early and quantitatively by placing an electrode face to face with the underwater structure made of steel and coated with the paint film, with a fixed space to measure the resistance value and electric capacity between the electrode and the underwater structure, and obtaining a loss factor from a specific expression. SOLUTION : A support plate 21 is fitted to a bar-like support body 24 through a universal joint 23. A coil spring 26 is disposed between the support plate 21 and a collar body 25 so as to prevent the tip of the universal joint 23 from hanging down. A coil spring 28 is disposed between the collar body 25 and a bearing stand 27 slidably fitted with the support body 24, so as to prevent a holder 20 from being damaged due to being pressed to an underwater structure. The bearing stand 27 is fastened to a submerged robot 30. Electric resistance R and electric capacity C between the underwater structure 10 and an electrode face 6a fitted to the support plate 21 are measured by an impedance measuring apparatus 1, and a loss factor D is computed from an expression D=1/(2πfCR), where (f) is frequency (Hz)	DAINIPPON TORYO KK; MITSUI SHIPBUILDING ENG	JP09184674	1997/7/10

237	REACTOR INTERNAL INSPECTING DEVICE	PROBLEM TO BE SOLVED : To approach an inspecting means to an inspecting part to perform an inspection even in a place where the insertion of the inspecting means is difficult by providing a rotatable arm mechanism on an underwater remote control vehicle(ROV), and providing various inspecting means on one top end of the arm mechanism and a counter float on the other end. SOLUTION : This device is provided with an inspecting device body 10 which comprises a camera unit 2 set in the front part of a ROV body 1 so as to be capable of elevating and rotating, an arm mechanism 3 fixed to the body 1 side surface in such a manner as to be rotatable around horizontal axial line, an X-Y scanner 4 erected on the arm mechanism 3, and an inspecting means 5 loaded thereon in such a manner as to be movable within the X-Y plane and attachable/detachable. The body 1 is provided with a float 23 fixed to a pressure case, a thruster 24 for longitudinal movement and rotation, and a thruster for raising/lowering and horizontal movement. The output is performed by the signal output from a control device 121 connected to a relay box 11 and cables 13, 14. A device operating joy stick 122, an ultrasonic flaw detector 123 or the like is connected to the device 121.	HITACHI LTD	JP09163664	1997/6/20
238	DEVICE AND METHOD FOR CLEANING SUBSTRATE	PROBLEM TO BE SOLVED : To provide a device and method for cleaning substrate by which the surfaces of substrates can be cleaned in excellent states. SOLUTION : Uncleaned wafers are sequentially taken one by one from the cassette 33 of an underwater loader 31 by means of a loader carrying robot 41 and carried in a both-face brush cleaning section 50. After the cleaning section 50 removes adhering foreign matters having large particle sizes from both the surface and backside of the wafers with brushes, the wafers are carried in a surface brush cleaning section 60. The section 60 precisely removes adhering foreign mattes having small particle sizes from the wafers. Then the wafers are carried in a water washing and drying section 70 which washes the substrates with water and dries the washed substrates. After the above- mentioned treatment, the wafers are housed in the cassette 37 of an unloader 32 by means of an unloader carrying robot 42.	DAINIPPON SCREEN MFG	JP09112863	1997/4/30

239	ROBOT FOR RECOVERING LEAKAGE OIL AND FACILITY THEREFOR	PROBLEM TO BE SOLVED : To safely and efficiently recover leakage oil in a water area which is shallow and a number of reefs exist in a wide range. SOLUTION : The leakage oil recovering robot is connected to the terminal of a recovering hose 17 sucking and recovering leakage oil C floating in the neighborhood of a water surface together with water W. In the case, a body 1 connecting the recovering hose 17 to the rear part side, a float 2 surfacing the body incorporated in the body 1 in the neighborhood of the water surface F, a moving means 12 composed of a screw moving part 121 supported on the lower part side of the body 1 and enabling underwater movement and a caterpillar moving part 122 enabling soil contact movement, and a recovering terminal part 7 supported on the front part side of the body 1, communicating with the recovering hose 17 and making the suction opening of the leakage oil C and water W are provided.	AQUA SHITEII KK	JP09088504	1997/4/7
240	BODY WALL POSITION MEASURING DEVICE OF LARGE FLOATING BODY	PROBLEM TO BE SOLVED : To provide a position-measuring device that can accurately measure the position of, for example, corrosion or a crack being generated on the body wall of a large floating body being floated, for example, on a seawater surface. SOLUTION : A device is constituted of a transmission part TD that is moved under water due to a guidance command signal from the ground or above water, is mounted on a traveling body means (ROV 12) for mounting a monitoring device that monitors the condition of the body wall of a large floating body, and transmits a transmission signal into water, a plurality of wave receivers rd1-8-rdn-8 that are arranged at specific different positions on the body wall of the large floating body and receive a transmission signal that is transmitted from the transmission part TD, and a display operator A that calculates the position of the ROV 12 by a reception signal obtained from a plurality of waver receivers rd1-8 and rdn-8. In this case, the display operator A calculates a straight line distance from the value of an arrival time Δt of a reception signal obtained from at least three wave receivers and a direction cosine using the time difference of the Δt generated between the three wave receivers, obtains the azimuth of the transmission part TD, and calculates the relative position of the ROV 12 for the large	KAIJO KK	JP09047004	1997/2/14

241	INTRA-TUBE INSPECTION DEVICE	PROBLEM TO BE SOLVED : To see the inside of a tube from an optional direction in an optional range over a long distance without disturbing the inner face of the tube by constituting an intra-tube inspection device with a propelling body provided with a camera and an inserting/recovering device inserting the propelling body into the tube and recovering it to the outside. SOLUTION : This intra-tube inspecting device of a service water path is constituted of an intra-tube underwater diagnostic robot 12 provided with a propelling force generation section and mounted with a television camera 29, an inserting/recovering device 9 fitted to an auxiliary valve 7 on the upper side of a branch tube 5, a cable 11 inserted into a conduit 1 from the ground and connected to the robot 12, and a ground controller 22 electrically connected to the cable 11 and provided with a monitor picture tube 24. The robot 12 and cable 11 are kept at the neutral buoyancy state. The robot 12 is lowered into the conduit 1 with the inserting/recovering device 9, it is propelled by the remote control from the controller 22, and it photographs the state of an inspection object section with the camera 29. The image signal is sent to the controller 22 for a visual inspection and image processing.	KUBOTA KK	JP09022220	1997/2/5
242	INTRA-TUBE INSPECTION DEVICE	PROBLEM TO BE SOLVED : To allow a casing to move by itself or on a stream and see the inside of a tube in an optional range/direction by providing the casing incorporating a camera and movable on the stream in the tube and a propelling force generating means by the ejection of the stream from the casing. SOLUTION : An intra-tube underwater diagnostic robot 12 serving as an intra-tube inspection device is connected to a cable 11 inserted into a conduit from the ground, and it has a casing 13. The casing 13 is constituted of an image module 32 having a television camera 29 and a propelling module 34, and the propelling module 34 is provided with a DC motor 35 driving an impeller 40 via a magnet coupling 36, and a moving nozzle 44 serving as a discharge port of a stream is provided behind the impeller 40. The robot 12 is kept at the neutral buoyancy state. Propelling force by a jet stream 46 is generated via the rotation of the impeller 40 by remote control, and the robot 12 is moved in the tube for an inspection.	KUBOTA KK	JP09022221	1997/2/5

243	INTRA-TUBE INSPECTION DEVICE	PROBLEM TO BE SOLVED : To prevent the rotation of a propelling body and improve propulsion efficiency in an intra-tube inspection by providing a stator for canceling negative torque on the propelling body having a camera and movable with the stream ejected from an impeller. SOLUTION : An intra-tube underwater diagnostic robot 12 which is a propelling body constituting an intra-tube inspecting device of a service water path and mounted with a camera is connected to a cable 11 inserted into a conduit from the ground, and it has a propelling module 34. The propelling module 34 is constituted of a DC motor 35, an impeller 40, and a stator 49 having a fixed blade structure and provided on a discharge passage 43 formed behind the impeller 40, for example. The robot 12 is kept at the neutral buoyancy state, it generates propelling force via the rotation of the impeller 40, and it is moved in the tube for an inspection. The negative torque generated by the rotation of the impeller 40 is negated by the stator 49, the rotation of the robot 12 is prevented, the twist of the slip stream of the impeller 40 is corrected, and the propulsion efficiency can be increased.	KUBOTA KK	JP09022223	1997/2/5
244	INTRA-TUBE INSPECTION DEVICE	PROBLEM TO BE SOLVED : To completely seal water in a casing at an internal visual inspection in a tube by providing a magnet coupling connecting a casing propelling impeller and a rotation drive source on the casing incorporating a camera. SOLUTION : An intra-tube underwater diagnostic robot 12 connected to a cable 11 inserted into a conduit and serving as an intra-tube inspecting device is provided with a casing 13 constituted of an image module 32 formed with a television camera 29 and a propelling module 34. The propelling module 34 is provided with a casing inner rotor 37 directly rotated by a DC motor 35 and a magnet coupling 36 having a casing outer rotor 38 rotated interlockingly with the casing inner rotor 37, and an impervious wall 63 is provided between the rotors 37, 38. When the impeller 40 is rotated by remote control, a jet stream 46 is ejected, and the robot 12 can be moved in the tube for an inspection. Water can be completely sealed in the casing 13 by the impervious wall	KUBOTA KK	JP09022224	1997/2/5

245	INTRA-TUBE INSPECTION DEVICE	PROBLEM TO BE SOLVED : To easily keep dynamic balance at the time of propulsion at an internal visual inspection in a tube by providing a propelling impeller, a suction passage to the impeller, and multiple suction ports on a casing incorporating a camera. SOLUTION : An intra-tube underwater diagnostic robot 12 connected to a cable 11 inserted into a conduit and serving as an intra-tube inspecting device has a cylindrical casing 13 incorporating a television camera 29. The casing 13 is provided with an impeller 40 provided at the tip of a shaft 30 driven by a DC motor 35, a suction passage 41 formed around the shaft 39, and multiple suction ports 42 communicated with the passage 41 in the peripheral direction. The robot 12 is kept at the neutral buoyancy state. When the impeller 40 is rotated by remote control, the robot 12 is propelled by a jet stream 46, and it can internally see an optional range/direction. Since water 45 is fed to the impeller 40 from multiple suction ports 42, the robot 12 can be easily balanced dynamically.	KUBOTA KK	JP09022225	1997/2/5
246	INTRA-TUBE INSPECTION DEVICE	PROBLEM TO BE SOLVED : To see the inner face of a tube from an optional direction by providing an intra-tube observing camera, a propelling impeller, and a movable nozzle capable of controlling the jet stream from the impeller. SOLUTION : An intra-tube underwater diagnostic robot 12 connected to a cable 11 inserted into a conduit from the ground and serving as an intra-tube inspection device of a service water path is provided with an impeller 40 incorporating a television camera 29 and driven by a DC motor and a movable nozzle 44 provided at the tip of a discharge passage 43 formed behind the impeller 40. The nozzle 44 is provided with a nozzle body 65 buried with a ring magnet 66 and communicated with the discharge passage 43 at a bellows section 67, and its tip section is made rockable. When the ring magnet 66 is attracted or repulsed by multiple solenoids 47A-47D buried in the casing 13 to rock the nozzle 44, the robot 12 is propelled to an optional direction, and it can direct the mounted camera 29 to an inspection object.	KUBOTA KK	JP09022226	1997/2/5

247	DEVICE AND METHOD FOR INSPECTING AND REPAIRING ATOMIC POWER PLANT	PROBLEM TO BE SOLVED : To make the remote control work of an atomic power plant easier and surer by obtaining appropriate and clear pictures by projecting the video of a robot on the screens of a video wall vision and displaying an icon which indicates the screen configuration of the video wall vision on the screen of a display device. SOLUTION : An underwater camera 11 hung from a cable operating buoy 8, a mobile television camera mounted on an underwater natatorial inspection robot 15, a television camera 6 installed to an operation floor 1, an underwater illuminating lamp 12 hung, from the buoy 8, etc., are connected to a remote control room 37 through signal cables passed through signal and power repeating boards 34 and 35. The work performed for supporting the installation and guide of the robot 15 from the video of the complete view of the working area of the robot 15 to detailed videos are successively projected on a back projecting type video wall vision 40 which is installed to the room 37 and composed of a plurality of screens. Then an icon which indicates the screen configuration of the video wall vision 40 is displayed on the screen of a CRT 47 provided on a remote console 39.	TOSHIBA CORP	JP09033008	1997/1/31
248	Robot for measuring plate		運輸省第三港湾建設局長; 五洋建設株式会社;	JP04021334U	1992/3/10
249	DENSE GREEN-TYPE COLORED GLASS	PROBLEM TO BE SOLVED : To obtain a dense green-type colored glass capable of specifying light transmittance properties, having sufficient privacy protection properties by including basic constituents of a soda lime silica-based glass, and Fe2O3-Se- CoO-Cr2O3-based coloring constituents combined therewith. SOLUTION : This dense green type colored glass is obtained by basically including basic constituents of a soda lime silica-based glass, and 0.60-1.35wt.% Fe2O3.(all iron), 120-300ppm Cod, 20-50ppm Se and 340-1200ppm Cr2O3 as coloring constituents. The dense green-type colored glass having 3.5mm thick is characterized by ≤50% visual light transmittance Tv, ≤45% sunlight transmittance Ts and ≤15% ultraviolet transmittance Tuv measured by D65 illuminant measurement.	CENTRAL GLASS CO LTD	JP08245945	1996/9/18

250	DARK GRAY GLASS	PROBLEM TO BE SOLVED : To obtain glass highly absorbing UV and IR, especially shielding UV B, more especially shielding UV A, protecting privacy, assuming a dark gray tone, excellent in easy temperability, improving comfortableness and safety, harmless to the human body and environment, having high environmental resistance, capable of reducing weight and suitable for use as window glass for construction, especially for an automobile. SOLUTION : This glass is based on soda lime-silica glass and essentially contains 0.75-1.50wt.% Fe2O3 (total iron), 70-250ppm CoO, 10-50ppm Se and 0-330ppm NiO and/or Cr2O3 as coloring components. It has ≤50% visible light transmissivity Tv, ≤45% solar radiation transmissivity Ts, ≤15% UV transmissivity Tuv, $; 8% UV transmissivity Tuv350 at 350nm wavelength and ≤35% UV transmissivity Tuv370 at 370nm wavelength in the case of 3.5mm plate thickness in measurement with a D65 light source.	CENTRAL GLASS CO LTD	JP08228140	1996/8/29
251	REMOVING AND CLEARING DEVICE FOR WATER BOTTOM SEDIMENT	PROBLEM TO BE SOLVED : To simplify a control system for the working position of a water bottom sediment removing device. SOLUTION : A removing device 16 for a water bottom sediment 3 is fitted to a self-advancing float 5, and a signal from a position signal generator 10 provided on the float 5 is received by a position detector (plural) 7 on a water tank 1 and analyzed by a position control device 9 to detect the position of the float 5. With the above operation, a control signal for guiding the float 5 to a target spot is output. Thus, the control system can be formed more simply than the case of a underwater robot so as to reduce the cost.	MITSUBISHI HEAVY IND LTD	JP08233629	1996/8/15
252	The device of the conduit channel cleaning underwater		MITSUBISHI HEAVY IND LTD; TOKYO ELECTRIC POWER	JP02228739	1990/8/30

253	UNDERWATER ROBOT	PROBLEM TO BE SOLVED : To downsize a robot and to reduce its weight without the occurrence of any functional failures caused by entangling of suspended matters with a screw even in an environment where many suspended matters exist. SOLUTION : Four jet propelling nozzles 12 are obliquely attached to the side face of a robot main body 11. The robot main body 11 includes an air motor 13, a thruster 14, a thruster motor 15, a posture angle sensor 16, a depth sensor 17, a cleaner section 18 and a skid 19. High pressure water is supplied from a water pressure pump 25 on an assist mother ship through a water pressure hose 22 to the cleaner section 18 and the air motor 13 and then this high pressure water is jetted out through the jet propelling nozzles 12. A controller 26 drives the thruster motor 15 based on detected signals from the posture angle sensor 16 and the depth sensor 17 so as to perform posture control and controls turning ON/OFF of the jet propelling nozzles 12 via a solenoid valve 30 and the air motor 13.	MITSUBISHI HEAVY IND LTD	JP08197783	1996/7/26
254	POSITIONING APPARATUS FOR UNDERWATER ROBOT	PROBLEM TO BE SOLVED : To obtain a positioning apparatus by which a target position is measured and the position of an underwater robot is measured in real time. SOLUTION : A positioning apparatus is provided with a plurality of magnet carriages 1, 2, 3 which are equipped with sonars A, B, C and which can be moved in the water, with a sonar D which is provided at a cleaning robot 5 which performs an operation in the water and with a control device 4 which analyzes data received by the sonar other than the transmitted sonars so as to decide positions of the respective sonars A, B, C and which computes the position of the cleaning robot 5 on the basis of data on the transmission of at least the two sound waves received by sonar D in the cleaning robot 5 and on the basis of data on positions of the two sonars.	ISHIKAWAJIMA HARIMA HEAVY IND CO LTD	JP08182865	1996/7/12

255	MOBILE COMMUNICATION SYSTEM	PROBLEM TO BE SOLVED : To provide a mobile communication system which enables hand-over control at a high speed even if a moving body passes through an extremely small cell in a short time, and eliminates the complexity in its control process. SOLUTION : One of p kinds (p : 1, 2, 3...) of communication frequency is assigned to each of m cells (m : 2, 3, 4...) which are arranged successively in a column and adjoin to one another, the respective cells accommodate n calls (n : 1, 2, 3...), and a combination of the same frequency allocation is repeated for every m×p cells. With this system constitution, n×m TDMA time slots represented as Tuv (u : 1, 2, 3..., i...n, v : 2, 3, 4..., j...m) are assigned to the respective cells and for a cell j among the m cells, a TDMA time slot Tij is assigned to a call i among the n calls.	NEC CORP	JP08195359	1996/7/5
256	SUBMARINE CABLE SURVEYING MEANS	PROBLEM TO BE SOLVED : To exactly detect the distance and elevation difference to a submarine cable and the laid direction of the submarine cable. SOLUTION : A differential three axes crossing direct current magnetic sensor 3 in which three direct current magnetic sensors having sensitivity to one specific axis direction are arranged so that each other axes cross to form a three axes crossing direct current magnetic sensor and these three axes crossing direct current magnetic sensors keep specified intervals and also the corresponding individual axes are arranged to be parallel to each other, is fixed facing horizontally to an underwater robot 10 of remote control type. The output signal from this differential three axes crossing direct current magnetic sensor 3 is A/D converted with an A/D converter and transmitted via a tether cable 6 to a mother ship 20. In an operation processor in the mother ship 20, the distance and elevation difference to a submarine cable and the laid direction of the submarine cable are calculated by using the transmitted output signal from the sensor, and indicated on a display.	KOKUSAI DENSHIN DENWA CO LTD	JP08165159	1996/6/6

257	SUBMERSIBLE BODY AND SUBMERGENCE POSITION CONTROL METHOD	PROBLEM TO BE SOLVED : To keep the submergence position constant to the random external force by learning in such a manner that the evaluation amount of a difference between the kinetic characteristic and the target value of the kinetic characteristic attains the minimum value, and setting and outputting a second control input according to the kinetic characteristic. SOLUTION : The diving depth target value Rs of a submersible machine (ROV) is set from a depth target value setting means 10, and output to a subtractor 11 and a network control means 12. The subtractor 11 subtracts a depth amount Z(t) from the depth target value Rs to generate a depth error signal G(t) to be output to a PID controller 13. The PID controller 13 generates a first control input Upid(t) according to the sample value of the depth error signal G(t) to be output to an adder 14. The adder 14 addes the control input Upid(t) and a second control input Unn(t) input from a network control means 12 to output the total control input Uo(t). According to the control input Uo(t), a thruster 2 displaces the dividing depth of ROV.	ISHIKAWAJIMA HARIMA HEAVY IND	JP08112855	1996/5/7
258	ROBOT FOR UNDERWATER OPERATION	PROBLEM TO BE SOLVED : To make the title robot small in size and light in weight and to enable execution of operations for exfoliation and removal of fouling organisms and collection thereof in a long waterway by providing the main body of the robot with an underwater running body, an underwater pump, an operating arm, buoyant bodies and an attitude control means. SOLUTION : In the case of an operation of cleaning the bottom wall 3 of a waterway, for instance, a cleaning brush unit 11 is fitted to the fore end of an operating arm 8, while buoyant bodies 22 and 23 and an attitude changing device 24 are fitted to the main body 2 of an underwater operation robot. The operating arm 8 being lowered by a hydraulic cylinder 10, a rotating brush 14 is pressed on the bottom wall 3 and fouling organisms are scraped off. On the occasion, the robot 1 rises up when the operating arm 8 is pressed against the bottom wall 3 of the waterway, since it is balanced in a state of being suspended in water by the buoyant bodies 22 and 23. By driving an underwater pump 5 on the occasion, the seawater sucked in from a suction port 6 is jetted from a discharge port 7 and the underwater robot 1 is brought into pressure contact with the bottom wall by the reaction thereto.	HITACHI SHIPBUILDING ENG CO	JP08042285	1996/2/29

259	ULTRAVIOLET RAYS AND INFRARED RAYS ABSORBING GREEN GLASS	PROBLEM TO BE SOLVED : To obtain green glass suppressing the occurrence of defects such as irregularity in color, ream and distortion, having high quality, high performance and more favorable human, physical and environmental effects by the conventional float process with high productivity. SOLUTION : This green glass is soda lime-silica glass contg. at least 0.5-0.72wt.% Fe2O3, 2.2-2.6wt.% CeO2 and 0.4-0.9wt.% TiO2 as coloring components and having 3.5mm thickness, ≤ 6% UV transmissivity (TUV), 0% transmissivity (T350) at 350nm wavelength, ≤15% transmissivity (T370) at 370nm wavelength and ≤ 15% transmissivity (T1, 100) at 1, 100nm wavelength with an A light	CENTRAL GLASS CO LTD	JP08013716	1996/1/30
260	UNDERWATER OBJECT POSITION MEASURING DEVICE	PROBLEM TO BE SOLVED : To provide an underwater object position measuring device that can be prepared and withdrawn in a short time and reduced in equipment cost. SOLUTION : An underwater object position measuring device making an underwater robot 2, existing in the water, recognize a present position has buoys 1 for obtaining position data on the basis of GPS signals from GPS satellites 4 constituting a global positioning system so as to transmit this position data as ultrasonic signals into the water and to transmit time pulses as ultrasonic signals into the water at the specified time, a computing element provided at the robot 2 so as to obtain arrival time difference between the position data and time pulses of the buoys 1 by receiving the ultrasonic signals from the buoys 1 and to compute present position data on the basis of the position data and arrival time difference, and	SAKITANI AKIHIDE; FURUNO ELECTRIC CO LTD	JP07326328	1995/11/20

261	PROBING SYSTEM FOR SUBMARINE CABLE	PROBLEM TO BE SOLVED : To obtain a probing system by which a distance up to a submarine cable and a difference in height as well as the laying direction of the submarine cable are detected precisely. SOLUTION : Three DC magnetic sensors which are sensitive to only a specific uniaxial direction are arranged in such a way that their respective axes are at right angles to each other, triaxial orthogonal DC magnetic serusors are formed, and differential triaxial orthogonal DC magnetic sensors 1, 2 in which the triaxial orthogonal DC magnetic sensors are arranged so as to keep prescribed intervals and so as to make the corresponding respective axes parallel to each other are attached to a remote-control underwater robot 10. Output signals from the respective differential triaxial orthogonal DC magnetic sensors 1, 2 are A/D-converted by an A/D converter housed inside an electronic circuit container 3 so as to be transmitted to a mother ship 20 via a tether cable 6, and a distance up to a submarine cable 8 and a difference in height as well as the laying direction of the submarine cable are computed by a computing and processing part inside the mother ship 20 by using the output signals from the sensors so as to be	KOKUSAI DENSHIN DENWA CO LTD	JP07300515	1995/10/26
262	METHOD AND APPARATUS FOR RENDERING, WITH GOOD EFFICIENCY, OF3D IMAGE	PROBLEM TO BE SOLVED : To efficiently perform a rendering process by mapping span data into texture mapping data and then rendering the data. SOLUTION : This device is equipped with a processor 110 connected to a bus 140 through a memory controller 120 including an intelligent memory controller(IMC) 130. Then this IMC 130 performs the actual texture mapping of a current span, i.e., projection on a currently scanned texture map space to determine voxel data for each point on the span. Then the IMC 130 retrieves the color and texture between the end point and an intermediate point of the current span by plotting a linear memory address from a composite (tuv) value. Then the current scanning line is rendered by the IMC 130. Further, a processor 110 determines whether or not there is another span to be rendered with	SUN MICROSYSTEMS INC	JP08195277	1996/7/8

263	METHOD FOR POSITIONING UNDERWATER INSPECTING DEVICE	PROBLEM TO BE SOLVED : To detect a destined position without using an inclination angle by measuring a traveled distance using a bathometer, calculating the length of the linearly traveled distance along the direction of Y-axis, and computing the length of the linearly traveled distance along the direction of X-axis. SOLUTION : An underwater inspection robot 4 is moved from a preset initial position on a vertical wall 24 and along a vertical plane consisting of horizontal (X-axis) and vertical (Y-axis) directions, and is advanced toward a destination. Every sampling time, the distance Ii linearly traveled along the direction of X-axis is calculated from the value of a number-of-revolution counter, and the distance Yi traveled along the direction of Y-axis, obtained when a value measured by a bathometer 20 is converted into a y-coordinate from the initial position (zero point), is calculated. From the previously calculated difference between Yi-1 and Yi, the length yi of the distance Yi in the direction of Y-axis is calculated, and the length xi=(Ii2-yi2)1/2 of the distance Xi in the direction of X-axis is calculated. The present position Pn is obtained from the integrated value Xn=Σnxi of the distance Yn and the length xi calculated from the values measured by the bathometer 20. Therefore, the present position of the robot 4 can be detected with accuracy without use of an inclination angle [!theta!]i which often results in computing errors.	ISHIKAWAJIMA HARIMA HEAVY IND	JP07242685	1995/9/21
264	UNDERWATER CLEANING DEVICE	PROBLEM TO BE SOLVED : To hold a capable and hose by buoyancy of filled gas during cleaning the side face and to put the cable and hose on the bottom by collapsing them by water pressure during cleaning the bottom face by fitting hermetically the cylindrical hose type float having flexibility to the cable and hose. SOLUTION : A water jet for cleaning 11 has a robot body 10, a power source and controller 14, a work vessel 1, a cable and hose 5 connecting the above, a hose type float 7, and a float 8. When the hose type float 7 is filled with air in advance, it expands, and it is held together with a float 8 fitted to the cable and hose 5. In the case a side face 16 of a fishing net 13 is cleaned, the whole of the hose type float 7 is filled with air to hold the cable and hose 5. In the case of cleaning a bottom face 17 of the fishing net 13, air in the tip part of the hose type float 7 is collapsed to cause the cable and hose 5 to sink and the robot 10 is easily stuck to the bottom face.	MITSUBISHI HEAVY IND LTD	JP07250801	1995/9/28

265	ROBOT TEST AUXILIARY DEVICE	PROBLEM TO BE SOLVED : To realize a robot test auxiliary device to assist a test of a robot for underwater, aerospace, etc., on the ground and in the atmospheric air by compensating gravity applied on a head end part of the robot by a comparatively simple method. SOLUTION : This device is furnished with a joint position detector 5 to detect an operating angle or a position of an actuator 4 for a joint of a robot, an auxiliary drive device 8 to assist the movement of the actuator 4 for the joint, a position detector 9 of the auxiliary drive device 8 to detect an operating angle or a position of the auxiliary drive device 8 and an arithmetic unit 12 to compute a command to the auxiliary drive device 8 in accordance with information acquired from the joint position detector 5. It is constituted to generate force to assist movement of the actuator 4 for the joint of the robot by controlling the auxiliary drive device 8 through the arithmetic unit 12 in accordance with the information from the joint position detector 5.	FUJITSU LTD	JP07238249	1995/9/18
266	TIRE FOR UNDERWATER ROBOT	PROBLEM TO BE SOLVED : To increase the gripping force of a tire so as to surely run it and prolong the life, in the tire for an underwater robot running on a fishing net and performing cleaning and the like of the fishing net. SOLUTION : In a tire for an underwater robot being pressed against a fishing net 4 and moving on the fishing net 4, spike-like projections 6 capable of biting in the meshes of the fishing net 4 are provided on the surface 7 of the tire.	MITSUBISHI HEAVY IND LTD	JP07235393	1995/9/13
267	Underwater floor wall cleaning robot		ADVANCED N M R SYST INC	JP04033061U	1992/4/20
268	A distance measuring system for measuring		MITSUI ZOSEN KK; KANSAI DENRYOKU KK	JP02330647	1990/11/30

269	A video recording method AUV	[docdb]PURPOSE : To record only a desired video image accurately and sharply by outputting a video recording start stop signal to a changeover circuit synchronously with a time when a picture signal the same picture signal displayed on a monitor is outputted from a picture memory while a command signal is given so as to operate/stop a video recorder. CONSTITUTION : A supervisor (not shown) on a control vessel 12 always monitors a video image on a video monitor 24 and turns on a recording start switch (not shown) of a command device 32 of a video remote controller 30 when a picture requiring recording is displayed. When the video recording start signal is received by a receiver 40, the signal is given to a time reference circuit 46 via a filter amplifier 42 and a demodulator 44. An output signal of the time reference circuit 46 is outputted when the recording start switch 32 is closed synchronously with a time when a color signal inputted to a picture memory 28 is outputted from the picture memory 28 simultaneously with the picture displayed on the video monitor 24. Then a changeover circuit 29 is closed and the video recorder 48 starts recording.	MITSUI SHIPBUILDING ENG	JP0216288 2	1990/6/22
270	UNDERWATER ROBOT PRESSING REACTION GENERATING DEVICE	PURPOSE : To prevent refuse from biting into an underwater screw and make water jet force controllable regarding a robot for cleaning a culture net, the bottom of a ship, a marine petroleum storage tank, and the like. CONSTITUTION : Reaction generating screws 1 are placed side by side on an underwater moving type cleaning robot body 6, and a reaction generating nozzle 5 is disposed between the screws 1. The reaction generaing screws 1 are constituted in such a way as to be remote controllable and rotated by motor driving upon receiving a command from an onboard control device so as to generate required pressing force operated on the surface of an underwater structure to carry out cleaning. On the other hand, high pressure water is fed to the reaction generating nozzle 5, provided by the side of the screws 1, from a pump through a hose, and required pressing force is generated in the same way to the underwater structure to carry out cleaning.	MITSUBISHI HEAVY IND LTD	JP0716457 8	1995/6/8

271	Wall inspection robot	PURPOSE : To make it possible to detect the defective part of a wall surface under the surface of water from a remote position by providing a visual device, which can observe the wall surface for sucking, in the inside of a pad, which is sucked to the wall surface with internal vacuum. CONSTITUTION : A leg 2 is moved on a wall surface with a driving mechanism. A sucking pad 4 is pushed on an object wall surface 11. Then, the pressure in a pressure piping 9 is made positive, and the water in a chamber 5 is drained. Then, the pressure in the piping 9 is made negative, and the inside of the pad 4 is made to be the negative pressure. The leaking water from the wall surface 11 is monitored with a monitoring underwater camera 7. When the leaking water cannot be confiemd with the camera, the pressure in the piping 9 is made further negative. A drain piping 10 is openned under this state, and the water is injected into the chamber 5. Thereafter, the negative pressure is applied in the piping 9. The leaking bubbles from the wall surface 11 are monitored with the camera 7. Thus, the leaking defect part of the wall surface under the water surface can be detected from the remote	DORYOKURO KAKUNENRYO KAIHATSU JIGYODAN; TOSHIBA KK; TOKYO DENRYOKU KK; HOTSUKAIDO DENRYOKU KK; TOHOKU DENRYOKU KK; CHUBU DENRYOKU KK; HOKURIKU DENRYOKU KK; KANSAI DENRYOKU KK; CHUGOKU DENRYOKU KK; SHIKOKU DENR	JP04023832	1992/2/10
272	UNDERWATER ROBOT	PURPOSE : To carry out and in an underwater robot easily from and to a current in an open channel by moving a truck along a rail crossing the open channel and pulling up and down the underwater robot from the truck. CONSTITUTION : Rails 2 are stretched while crossing an open channel 1. A robot body 8 is introduced into the open channel 1 according to a guide rail 11 in a truck 5 moved on the rails 2. The robot body 8 is pulled up or down by operating a reel device 9 installed to the truck 5 through a rope body combined with the robot body 8. The robot body 8 can be shifted to an arbitrary place in the cross direction of the open channel 1 by moving the truck 5 along the rails 2, and the base and side faces of the wide open channel 1 can be cleaned efficiently, thus preventing a danger.	MITSUBISHI HEAVY IND LTD	JP07137794	1995/6/5

273	DREDGING METHOD BY UNDERWATER DREDGING ROBOT	PURPOSE : To make it possible to execute dredging work without hindering the navigation of ships. CONSTITUTION : In a dredging method by this underwater dredging robot which is turnably provided with a boom 21 at the tip of a robot main body having a traveling device driven by a plurality of crawlers and sucks up earth and sand excavated with an excavation cutter 20 at the tip of the boom 21 and carries the earth and sand by way of a sand removal pipe 40, the sand removal pipe 40 having a specified length is submerged to a water bottom 100, thereby forcing the underwater dredging robot 10 to tug the front end of the sand removal pipe 40. The middle part of the sand removal pipe 40 is moved and tugged by a relay robot 30 having a traveling device 33 by a plurality of crawlers so that the relay robot 30 may move, adjusting the slack of the sand removal pipe 40 while the underwater dredging robot 10 is operated so as to dredge a specified	UNYUSHO DAIYON KOWAN KENSETSU KYOKUCHO; PENTA OCEAN CONSTR CO LTD	JP07309390	1995/11/28
274	UNDERWATER CLEANING ROBOT	PURPOSE : To provide an underwater cleaning robot in which it goes beyond a projecting part and can be traveled without being caught on a fishing net, even if the projecting part is formed on the fishing net and cleaning capacity is increased. CONSTITUTION : The body 2 of an underwater cleaning robot 1 is pushed to the lower part by thrust due to a propeller 4 for propulsion and traveled on a fishing net 10 because a tire 3 for driving is rotated and driven. During travel, water is injected from a water jet nozzle 6 for cleaning and refuse of the fishing net 10 is blown off and cleaning is performed. A first auxiliary rollers 21a, 21b are rotated and supported movably in the upper and lower direction. A second auxiliary rollers 22a, 22b are movably rotated and supported in a slanting direction for the vertical direction. Thereby, when the robot goes beyond the projecting part, the first auxiliary rollers 21a, 21b are moved to the upper part and the second axiliary rollers 22a, 22b are moved to the slanting upper part. Rotation of tires 3a, 3b for driving is transmitted to the auxiliary rollers 22a, 22b, 21a, 21b and the robot goes beyond the projecting part by rotation of rollers 21a, 21b.	MITSUBISHI HEAVY IND LTD	JP07124653	1995/5/24

275	METHOD AND APPARATUS FOR UNDERWATER INSPECTION	PURPOSE : To detect a small crack or the like easily and surely by a remote operation. CONSTITUTION : In a robot body 11, a skid 22 which is provided with a slip preventive member 24 on the rear surface is installed at the lower part. When a vertical propeller 20 is driven, the skid 22 is pushed to a fixation part or the like, and the robot body 11 can be fixed. An arm 26 which can be turned to the horizontal direction and the up-and-down direction is attached to the tip part of the skid 22. Then, a hand 42 which is provided with a probe 38 for testing of an eddy current and with a scanning mechanism 40 used to scan the probe 38 is attached to the tip of the arm 26.	MITSUI SHIPBUILDING ENG; TOKYO ELECTRIC POWER CO; TOSHIBA CORP	JP07150993	1995/5/25
276	CLEANING MACHANISM FOR UNDERWATER CLEANING ROBOT	PURPOSE : To reduce the uncleaned corners of a material to be cleaned. CONSTITUTION : A moving tyre is attached to the lower part of the main body 1 of a robot, a cleaning mechanism 3 for ejecting pressurized water on the surface of a material to be cleaned is attached on the lower face, and a reaction force generating thruster is fixed to the upper part to constitute this underwater cleaning robot. The cleaning mechanism 3 is provided with a couple of rotary nozzles 10 with the middle respectively linked to both sides of a housing 6 furnished on the lower face of the main body 1 through the base arm 7 and tip arm 8 joined together with a hinge 9 and rotating vertically to the face to be cleaned. Further, a water-jet pipeline slid and inserted into the housing 6 through a seal structure and supplying pressurized	MITSUBISHI HEAVY IND LTD	JP07119223	1995/4/20

277	Underwater Antirachitic.	PCT No. PCT/GB86/00440 Sec. 371 Date May 4, 1987 Sec. 102(e) Date May 4, 1987 PCT Filed Jul. 23, 1986 PCT Pub. No. WO87/00501 PCT Pub. Date Jan. 29, 1987.View port for an underwater vehicle, e.g. for a remotely operated vehicle (ROV) usable for underwater inspection, and provides a view port (2) which can form a component of a pressure hull of an underwater vehicle, and which can be sandwiched between hull portions (4) to provide a transparent section girdling the hull. Preferably, the view port can form a component of a substantially spherical pressure hull, the view port being sandwiched between two similar part-spherical hull portions. The invention further provides an underwater vehicle having a view port which forms a component of a pressure hull and which provides a transparent section girdling the hull. A camera (10) may be pivotally mounted in the hull so as to allow rotation of the camera to view through the port. A light source may be provided in the hull and arranged so as to allow light from the light source to be shone out through the view port. The view port may be an integral ring of transparent material and the view port may provide a	HAIDOROBIJON LTD	JP61504141	1986/7/23
278	AUTONOMOUS SUBMERGED SAILING DEVICE	PURPOSE : To autonomously sail a submerged sailing body in a wide range by transmitting position information from a water boat to the submerged sailing body by underware acoustic communication ana receiving this position information by the submerged sailing body to input it to a computer. CONSTITUTION : Absolute positions or two water boats SV1 and SV2 are determined with a high precision by GPS. The water boat SV1 catches screw sounds of a submerged sailing body AUV by a passive sonar and tracks them to determine the distance between them. The water boat SV2 determines the distance in the same manner. Besides these distance information, relative speeds of the submerged sailing body AUV to water boats SV1 and SV2 are determined by passive sonars or water boats SV1 and SV2. Ground speeds of water boats SV1 and SV2 are determined by GPS and are transmitted to the submerged sailing body AUV together with relative speeds. These transmission information are inputted to the computer of the submerged sailing body AUV. Thus, the submerged sailing body autonomously moves in a wide range while detecting its position and	YOKOGAWA DENSHI KIKI KK	JP07056001	1995/3/15

279	Underwater work robot		KANSAI ELECTRIC POWER CO INC :	JP63095050	1988/4/18
280	REACTION FORCE GENERATING DEVICE FOR SUBMERGED CLEANING ROBOT	PURPOSE : To provide a safe and a low-cost reaction force producing device by a method wherein high pressure water by an on-ship pump is exerted on the hydraulic motor of a submerged cleaning robot and a thruster for generating a reaction force to exert a reaction force during an underwater work on the cleaning robot is driven. CONSTITUTION : To mount a submerged cleaning robot body 1 on an object 9 to be cleaned, water flowing in a piping 7 running from an on-ship pump 5 to a water jet 3 for cleaning is cutoff by closing a solenoid valve 16 for a water jet. Further, the valves (a) and (c) of the solenoid valve 14 are opened, a valve (b) is closed, the valves (e) and (f) of a solenoid valve 15 are opened, the valve (d) is closed, only thrust in a direction in which it is applied on the object 9 to be cleaned is generated, and the robot body 1 is moved to the object 9 to be cleaned. During a work wherein a high speed water flow is injected against a surface to be cleaned through the water jet 3, by driving a hydraulic motor 8 by means of high pressure water from the on-ship pump 5, the screw 11 of a reaction force generation thruster 2 is rotated and a reaction force needed by the submerged robot water is generated.	MITSUBISHI HEAVY IND LTD	JP07046400	1995/2/10

281	UNDERWATER WORK AND PHOTOGRAPHING DEVICE FOR UNDERWATER WORK	PURPOSE : To dispense with movement and mounting of a photographing device by a diver and to perform safe and efficient underwater work by a method wherein a photographing robot is moved according to the change of a working side through remote control on a working ship and seated on the bottom to be monitored most suitable to photograph the vicinity of the working site. CONSTITUTION : By operating a propulsion thruster 24A and right and left thrusters 24B through the working of the robot operation device of an assist part 3 on a working ship 2, a photograph robot 1 is moved. A ballast tank control device is driven and ultrasonic pulses from ultrasonic oscillators 14A and 4B are received by ultrasonic receivers 21A and 21B for detecting the position of a position detecting means to detect a position and a robot body 20 is moved to a given bottom to be monitored as depth is confirmed by a depth meter, and seated on a bottom through seating legs 39. An illumination light 35 is lighted ON, and a dredging work is carried out through operation of a graph operating device 5 as a picture signal for a sea bottom photographed by a television camera 33 is watched.	HITACHI ZOSEN CORP	JP07029923	1995/2/20
282	CONTROLLER OF AUTONOMOUS UNDERWATER ROBOT	PURPOSE : To provide a controller of autonomous underwater robot whose modules can take sensor information in directly and output necessary information independently and which can have modules easily changed or added. CONSTITUTION : This controller is equipped with a target point guidance control module 3 which determines a direction for guidance to a target point given by information from a sensor 1, an obstacle evasion control module 4 which determines an evasion direction by detecting an obstacle with the information from the sensor 1, a guidance direction composition unit 7 which composites the output of the target point guidance control module 3 and the output of the obstacle evasion control module 4 and determines a direction wherein the robot is guided to the target point while evading the obstacle, and a motion control module 5 which receives the information from the sensor 1 and the output of the guidance information composition unit 7 and sends an operation signal to an	MITSUBISHI HEAVY IND LTD	JP07026122	1995/1/20

283	OSCILLATING HYDROFOIL TYPE PROPULSION DEVICE FOR UNDERWATER ROBOT	PURPOSE : To provide a propulsion device for underwater robot which is free from a failure due to entangling of a suspended matter, trash and the like, free from marine environmental pollution, excellent in functions of rapid rectilinearly going ahead/astern and rapid stopping, and capable of navigating a flat robot machine body in a horizontal posture being affected only little by a tidal current. CONSTITUTION : Rear ends of same length driving shafts 5a, 5b, which are symmetrically arranged at an appropriate interval on both right and left sides of a longitudinal center line in a machine body of an underwater robot, are protruded to the exterior underwater watertightly through rubber sheets respectively, and a pair of right and left oscillating hydrofoil propulsion shafts formed by fixing forward ends of vertical hydrofoils 4a, 4b each having a wing type cross section respectively to rear ends thereof. Forward parts and rearward parts of both the propulsion shafts 5a, 5b inside the machine body are provided with sway quantity imparting means 7a, 7b and yaw angle imparting means 18a, 18b for respectively and individually imparting required sway quantities and yaw angles in a right and left symmetric manner, and a phase difference variable means for driving both the means synchronously or with a	MITSUBISHI HEAVY IND LTD	JP06319229	1994/11/29
284	DEVICE FOR DETECTING POSITION OF UNDERWATER INSPECTION ROBOT	PURPOSE : To enable an ultrasonic device for detecting position of underwater inspection robot to detect the position of an underwater inspection robot on the side and bottom of a ship without changing the position of an ultrasonic wave transceiver. CONSTITUTION : When an ultrasonic wave transceiver 2 which receives ultrasonic waves transmitted from an underwater inspection robot is positioned obliquely below the bottom bilge section of a hull 1 on the outside so as to detect the position of the robot, the position of the robot on the side and bottom of the hull 1 can be detected without changing the position of the transceiver 2. Since a fitting jig 3A prevents the swinging and turning of the transceiver 3, in addition, the detecting accuracy of the transceiver 2 can be maintained at a high level.	MITSUBISHI HEAVY IND LTD	JP06298868	1994/11/8

285	MAGNETIC INDUCTION TYPE UNDERWATER ROBOT	PURPOSE : To accurately position an inspecting underwater robot of the underwater outer plate of an ocean structure at the predetermined position of the plate. CONSTITUTION : A pair of magnetic sensors 5A, 5B are mounted at a robot body 3 having steering wheels 6A to 6D which can be steered while being brought into contact with the underwater outer plate 1 of an ocean structure. The wheels 6A to 6D are so controlled that the deviations of the sensors 5A, 5B from the magnetic paint film 2 coating the plate 1 becomes zero, and hence the body 3 can be traveled along the film. Thus, the plate 1 of a turret lathe 7 loaded with the outer plate inspecting unit on the body 3 can be accurately positioned at a predetermined position of the plate 1.	MITSUBISHI HEAVY IND LTD	JP06298867	1994/11/8
286	REMOTE MAINTENANCE SYSTEM	PURPOSE : To provide a remote-control maintenance system in a specified environment by making visible the position and direction of a remote-control operation vehicle in the environment, detecting the physical characteristic of a structure or the like and recording and storing its space expression. CONSTITUTION : An environment computer generation model is made by an environment modeler 39, a ROV 10 inspects a structure in an environment by a sensor package 11 and the ROV 10 is operated by an actuator 13. A position and attitude detecting unit 21 detects the position and direction of the ROV 10 in the environment and environment expresser 35 makes a corresponding image. The position and direction of the ROV 10 are given to a ROV expresser 33 and the image of the ROV 10 is produced. An image mixer 41 superimposes the image of the ROV 10 on the image of the environment, the superimposed image is displayed on a monitor 43 and the position of the ROV 10 in the environment is made visible. Then, by reading a stored past image, maintenance is performed.	GEN ELECTRIC	JP07056378	1995/3/16

287	ROBOT FOR UNDERWATER CLEANING	PURPOSE : To provide a robot for underwater cleaning, capable of improving travel performances and reducing the weight of the whole system and producible at a low cost. CONSTITUTION : This robot for underwater cleaning is equipped with a moving means 2 of a robot body 1, water jet nozzle devices 3 for cleaning capable of jetting pressurized water on the surface of an object for cleaning, a pump 4 for the nozzle devices for cleaning, water jet nozzle devices 5 for producing reactional force capable of offsetting the reactional force for the robot body produced in jetting the pressurized water on the object for cleaning and a pump 6 for the nozzle devices for producing the reactional force. The two nozzle devices 3 for cleaning capable of mutually rotating in the opposite directions are combined into one set and at least one or more sets thereof are arranged in the robot body. Two thrusters for producing the reactional force capable of mutually rotating in the opposite directions are combined into one set and at least one or more sets thereof are preferably arranged in order to offset the reactional force of the jetted pressurized water in cleaning.	MITSUBISHI HEAVY IND LTD	JP06285830	1994/10/26
288	REMOTE MAINTENANCE SYSTEM FOR INSPECTING AND REPAIRING STRUCTURE IN ENVIRONMENT	PURPOSE : To visualize the position and direction of a remotely operated vehicle(ROV) in the specified environment by providing a position/attitude(P/A) detecting unit feeding the position and direction of the ROV. CONSTITUTION : An environment modeler 39 constitutes a computer model with parameters from a range measuring device, and this model is stored in an environment model memory device 37. An ROV modeler 49 constitutes a computer model with the parameters specifying the geometrical layout of an ROV 10, and this model is stored in an ROV model memory device 47. The position and direction of the ROV 10 determined by an P/A detecting unit 21 are fed to an ROV rendering unit 33, and the ROV rendering unit 33 forms the image of the ROV model stored in the memory device 47 at the position and direction. An image mixer 41 receives the images from an environment rendering unit 35, the ROV rendering unit 35, and a sensor package 11, forms an image to be observed by an operator 2, and outputs it to a	GEN ELECTRIC	JP07056375	1995/3/16

289	CLEANING ROBOT FOR UNDERWATER COLUMNAR STRUCTURE	PURPOSE : To reduce the size of a cleaning robot and to efficiently remove the ocean products adhering to a columnar structure over the entire peripheral surface thereof by adopting two pieces of monocoque frames having rigid hollow structures and swiveling cleaning brushes in the circumferential direction of the columnar structure by swiveling rings. CONSTITUTION : Boots 3 of the monocoque frames 2 are pressed to the columnar structure 1 and pressure is supplied to clamps 4 when centers are aligned. The monocoque frames 2 are fixed by pressing clamping arms 5 to the columnar structure 1. The cleaning brushes 12 and brush driving motors 11 are pressed in this state by brush pressing cylinders 13. The swiveling rings 8 mounted with the cleaning brushes 12 are swiveled in the circumferential direction of the columnar structure 1 by ring driving motors 10 to execute cleaning in the circumferential direction. On the other hand, the clamps 4 mounted at the upper monocoque frames 2 are loosened and pressure is supplied to the measuring cylinders 6 between the monocoque frames 2 to lift the upper monocoque frames 2. The clamps 4 are fixed in the next	MITSUBISHI HEAVY IND LTD	JP06254383	1994/9/22
290	APPARATUS FOR RECOGNIZING UNDERWATER MARK	PURPOSE : To recognize the position of an inspection mark even if a marine creature adheres to and shields the inspection mark by detecting change of the distance to a structure to be inspected. CONSTITUTION : An eddy current-type displacement detection part 54 detects a change of the position of a magnetic body from the fact that the electromagnetic induction or eddy current changes in accordance with the position of the magnetic body in a magnetic field. Since an inspection mark 92 is formed out of a magnetic material and projects, it is detected that the detection part faces the mark 92 from change of the voltage or current of the detection part 54. A moving distance detection part 55 calculates the moving distance or position of an underwater inspection robot 11 by detecting and integrating the revolution number of a driving wheel 14. A data collection device 56 obtains and stores data output from the detection part 54 and data output from the detection part 55. An inspection mark-judging circuit 57 when receiving the data obtained by the device 56 operates and processes the data to calculate the presence and position of the mark 92.	MITSUBISHI HEAVY IND LTD	JP06244911	1994/9/14

291	REMOTE MAINTENANCE SYSTEM	PURPOSE : To conduct efficient remote inspection and repair in an dangerous or inaccessible environment by arranging a remote operation vehicle(ROV) on which a sensor package for conducting imaging and test on a structure in the environment in the environment. CONSTITUTION : Parameters specifying an environment are manually given to an environment modeler 39, and parameters specifying the geometrical arrangement of an ROV 10 are manually given to an ROV modeler 49. The modelers 39, 49 make computer models from the respective received parameters, and the models are stored in an environment model storage device 37 and an ROV model storage device 47. An environment describer 35 accesses the model in the storage device 37, and simultaneously makes model displays seen from several different observation positions. The ROV 10 is assumed to be arranged in the dangerous or inaccessible environment so that plural actuators 13 are used, and the actuators 13 propel the ROV 10 so as to pass through a medium in the environment.	GEN ELECTRIC	JP07056377	1995/3/16
292	APPARATUS AND METHOD FOR DETECTING POSTURE OF NAVIGATING BODY	PURPOSE : To detect a posture of an underwater robot in a watercourse automatically and correctly, and also surely even when the water is turbid. CONSTITUTION : A distance to a wall surface of a watercourse 3 at a mounting position of each ultrasonic sensor 11 set at front and rear points of a side wall part 2a and a bottom wall part of an underwater robot 1 is detected from a detecting signal from the ultrasonic sensor 11. A posture of the underwater robot 1 is detected by operation based on the detected distances according to this detecting method.	CHUBU ELECTRIC POWER; HITACHI SHIPBUILDING ENG CO	JP06183824	1994/8/5
293	An endless rope-type underwater		ADVANCED N M R SYST INC	JP02098836U	1990/9/20
294	Underwater work robot		MITSUBISHI HEAVY IND LTD; PENTA	JP01012132U	1989/2/3
295	The object of the metering type in		KANSAI DENRYOKU KK; MITSUI ZOSEN	JP01067513	1989/3/22

296	Using unmanned submarine submerged in cleaning bascket foreign matter collecting device	Purpose : ROV is used, a video camera built in the situation of the water by the ROV is operated while confirming the TV monitor, a foreign matter recovery device mounted on the bolt by a nut with bascket ·, foreign matter such as metal pieces to surely and easily and can be recovered. Constitution : 1 and 1 of the automated unmanned submarine diving equipment attached to the lower part and is composed of a basket-type foreign matter collecting device 2, basket-type foreign matter recovering device 2 is provided with the dust pan 19 and the basket 20, the basket 20 is equipped with a wiper 16 foreign matter 3 is pushed, the basket 20 the wiper 16 an arm shaft 24 rotatably mounted at a tip end of a wiper arm 22 rotatably provided through a bracket 18 mounted on the wiper spring 17, attached to the unmanned submarine 1 driven by a submersible motor 13, the recovery	ATOTSUKUSU : KK	JP07000752U	1995/2/17
297	Water conduit inspection method by robot	PURPOSE : To inspect the inner wall surface of culvert even when the upstream side opening is small by a method in which a cable connected with an object to be towed is allowed to flow downwards from the upstream side opening to the downstream side opening, and an underwater robot is provided to the cable at the outlet and moved in the culvert toward the upstream. CONSTITUTION : A cable 15 connected to an object 20 to be towed is allowed to flow from the first opening 12 of an insufficient area to put an underwater robot 13 into it toward the large opening 14 on the downstream. The object 20 is drawn up at the opening 14 and the robot 13 is attached to the cable 15 which is in turn carried into the water of the culvert. While moving the robot 13 against the flow of water, the inner wall surface of the culvert is inspected by using a television camera. The cable 15 is again sent out, and the robot 13 is positioned on the opening 14 to pull it up. The object 20 is again attached to the tip of the cable 15, the cable 15 is wound up by a cable winch 16, and the object 20 is positioned on the opening 13 to recover	MITSUI ENG SHIPBUILD CO LTD; KANSAI ELECTRIC POWER CO INC : THE	JP02330646	1990/11/30

298	UNDERWATER ROBOT FOR REMOVING SHELLS OF CULVERT WATERWAY	PURPOSE : To provide a cost effective submersible robot for removing shells of culvert waterways which effectively peels the shells sticking to the base and side faces of a culvert and prevents splashing of the peeled shells without changing the posture in the culvert water flow. CONSTITUTION : This submersible robot for removing the shells of the culvert waterways has an underwater longitudinally traveling truck 2 which is movable by remote control along longitudinal direction rails 1 laid along the longitudinal direction of the culvert waterways, an underwater traversing truck 3 which is movable in the transverse direction of the waterways by remote control along rails 7 in the transverse direction laid on the longitudinally traveling truck 2 and a shell removing and removed shell recovering device 6 which is installed to the front end of a bendable and stretchable manipulator 5 with a driving device which is installed to the traversing truck 3 and is remote	MITSUBISHI HEAVY IND LTD	JP06027274	1994/1/31
299	The underwater structure inspection robot	PURPOSE : To carry out inspection work of an under-water structure efficiently and safely by providing a film thickness meter equipped with rotary brush for cleaning an inspection position, image pick-up means for recording the observation result, and a bar pitch measuring means for a dustproof screen. CONSTITUTION : A robot body A and a rate are launched onto the water surface of a dam, and the robot body A is advanced towards a dam gate, controlling the navigation of the robot body A by an on-ground controller and a position recognizing device, and the state of the coated film of the dam gate and the existence of the change of the bar pitch of a dustproof screen are inspected. In the inspection of the dam gate, the slime, etc., adhering onto the inspected position are removed by rotary brushes 2 and 3, and a film thickness meter 4 is press-attached, and the thickness of the coated film is measured indirectly from the change of the magnetic flux at the time when the electromagnetic waves irradiated from the sensor 4 penetrate through the coated film and reach an iron plate surface. Further, the bar pitch is measured according to the princi ple of triangulation by a screen bar pitch measuring device installed onto the on-ground controller from the images on two units of ITV cameras 8a and 8b. Therefore, the inspection work can be carried out efficiently	KANSAI ELECTRIC POWER CO	JP63011063	1988/1/20

300	UNDERWATER CLEANING DEVICE FOR CIRCULAR PIPE	PURPOSE : To make it possible to execute efficient cleaning under water by using plural cleaning means with a simple mechanism even in a curved part without the need for requiring water out of a pipe. CONSTITUTION : Robot bodies arranged with a pair of right and left traveling wheels in front and rear positions are provided with a thruster for position adjustment to press these traveling wheels to the inside surface of the circular pipe and are provided with a brush supporting body 8 arranged with plural contact type rotary brushes 5R, 5L apart prescribed intervals in the circumferential direction of the circular pipe between these robot bodies. The device is provided with a radial direction adjusting mechanism 6 for moving the brush supporting body 8 in the radial direction of the circular pipe and is provided a circumferential direction adjusting mechanism 7 for turning the supporting body in a prescribed range around the axial center of the circular pipe in parallel therewith. The device is provided with a brush posture controller for controlling the radial direction adjusting mechanism 6 and the circumferential direction adjusting mechanism 7 in accordance with the signals of proximity sensors 9R, 9L disposed at	HITACHI SHIPBUILDING ENG CO	JP05325637	1993/12/24
301	Leak detection device of the storage structure	Purpose : of unmanned underwater observation work simultaneously, as the low speed flow is not disturbed or hydrogen bubbles of tracer can precipitate out, and, a long-time continuous operation is possible to provide a leak detecting device of the storage structure. Constitution : 3 and 4 is equipped with a TV camera submerged underwater thruster, and, by generating electrolytic deposit 15 or hydrogen bubbles 16 attached to electrode 10 in an underwater robot 2, on each of the device can be controlled from the water surface is provided with a communication control means 13.	東京電力株式会社; 三井造船株式会社	JP05069364U	1993/12/24

302	SUBMERGED LOWERING CONTROL DEVICE FOR LONG FLEXIBLE SUBMERGED INSTALLATION OBJECT	PURPOSE : To eliminate a need for an independent submerged robot without using a diver by a method wherein the lower end position of a submerged installation object is detected, and the submerged installation object is guided to a target underwater object by means of thrust of a thruster and through delivery operation of an operation device. CONSTITUTION : A cable 4 is lowered in water by a cable operation device 2. In which case, the sonar receiver of a sensor 12 is caused to receive a signal from a sonar transmitter installed on a water bottom. Position information of the lower end part of the cable 4 is detected from the signal and inputted to a cable control device 1 through an optical fiber 9. A signal is transmitted to a cable operating device 2 by a cable control device 1 to deliver the cable 4, and through drive of a thruster 14, the lower end part of the cable 4 is caused to approach a target underwater object, such as a pit mouth and is connected thereto. Manual operation may be effected as the cable position information display panel of the cable control device 1 is	MITSUBISHI HEAVY IND LTD	JP05345194	1993/12/21
303	CLEANING ROBOT IN UNDERWATER PIT	PURPOSE : To provide a cleaning robot that is attachable or detachable to or from an underwater pit easily and cable of cleaning it as far as 360 degrees over the circumference at one clamp safely and speedily in a labor-saving manner. CONSTITUTION : This cleaning robot, consisting of a vertical pair of horizontal U-shaped frames 3 and 4, a clamp cylinder, and a lifting hydraulic cylinder, is composed of a measuringwork-like lifting mechanism moving along an underwater pit, a horizontal deformed Y-shaped fixed member 12 with a C-shaped inner surface circular arc being attached tight to an upper end of this lifting mechanism and where a semicircular owing part is concentrically clamped to the top of an opening part of the upper frame 3, a C-shaped movable ring 17 being fitted in the inner surface circular arc of the Y-shaped fixed member consisting of such a semicircular arc slightly smaller than the inner surface circular arc of this Y-shaped fixed member and tuning as far as ±180 degrees in the circumferential direction, each rotary cleaning tool 27 additionally installed, shiftably in the radial direction, to both ends of an opening part of the C-shaped movable cylinder 17, and two TV cameras 15 and 14 projectingly installed in each upper end of the Y-shaped fixed member 12 and the C-	MITSUBISHI HEAVY IND LTD	JP05314457	1993/11/19

304	Shell removing underwater robot · recovery	Purpose : in nuclear power plants and the like of the intake passage is applied to the cleaning shell removing · in underwater robot for recovering, by improving an intake port for recovery of shells, without stopping the flow of the intake path · shell removing and recovering. Constitution : on the bottom surface of the main body 10, a pair of rotary brush 1, 1 are installed, the center part of the rotary brush 1, 1 1 of the second intake port 2 for the collected shells are provided, the second intake port 2 1 2 at the downstream side of the intake port 3 is provided, the rotary brush 1, 1, 1 of the second intake port 2, the first intake port 3 2 of the brush-like skirt 4 by a temperable, removed by the rotary brush 1, 1 1 of the major part of the recovered from the first intake port 2, the rotary brush 1, 1 generated by rotation of the swirling flow is pushed by the flow of the intake path is moved downstream, and flows downstream through the same to the shell, the first intake port 3 of the recovered from 2, without stopping the flow of the intake path, the recovery of the shells.	ADVANCED N M R SYST INC	JP05062809U	1993/10/28
305	The structure of the guide structure for underwater inspection robot	Purpose : can be confirmed by direct means does not require expensive equipment and, accordingly, is excellent in cost effectiveness and accuracy, corrosion-proof structure of the marine structure can also serve as a guide structure for underwater inspection robot. Constitution : outer plate 01 WL of the sea through a range of mounting frame by a plurality of electric corrosion-proof material 2 in the longitudinal direction, lateral direction, at appropriate intervals in the vertical direction are arranged regularly in a marine structure, outer plate 01 laid in a plurality of rows extending in a horizontal direction for installation of the cathodic protection of long continuous type mounting frame 1 which are arranged at predetermined intervals, respectively, of the same shape and a plurality of electric corrosion-proof material 2, each continuous type mounting frame 1 respectively mounted at a predetermined interval for the detection of a measuring point and a plurality of different electrical protection material 3.	ADVANCED N M R SYST INC	JP05056778U	1993/9/27

306	DEVICE AND METHOD FOR AUTOMATICALLY MEASURING DENSITY OF BODY	PURPOSE : To prevent measuring errors caused by the surface defect of a chip or the like by measuring the weight of an object using a robot device in a dry medium and in a wet medium, and calculating the density of the object according to Archimedes' principle. CONSTITUTION : Air, for example, is used as a dry medium, and distilled water of a known temperature and density as a wet medium. A pellet 1 (object for measurement) on a conveyor 2 is taken out by the fingers 27 of a robot 21 for extracting and placing and is placed on a dry measuring saucer 17 to measure the weight W1 of the pellet 1 in air with a balance. Next, after the pellet 1 is temporarily placed on a plate 31, it is put into water in a tank 7 by the fingers 29 and placed on a wet measuring saucer 19 to measure the underwater weight W2 of the pellet 1. The measurements are input to a CPU, where the density D of the pellet 1 is calculated according to Archimedes' principle using D=(W1 ×d)/(W1 -W2). In the formula, (d) is the density of the water.	BRITISH NUCLEAR FUELS PLC	JP06052714	1994/2/25
307	GUIDING MAGNETIC TAPE OF UNDERWATER INSPECTION ROBOT	PURPOSE : To tolerate any long-term operation at the water surface and the underwater, to be no performance degradation, ease of maintenance and, what is more, low-unit cost of production, besides excellent in working properties; CONSTITUTION : This magnetic taper unit consists of two magnetic tapes 11a and 11b, a stainless steel taper 10 parallelly installed almost in the same width along these magnetic tapes 11a and 11b, and flexible waterproofer 14 covering each outer circumference of these magnetic tapes 11a, 11b and the stainless-steel tape 10. In this connection, a buoyant tape material 13 is installed in parallel with the magnetic tapes 11a, 11b and the stainless-steel tape 10. In this case, these magnetic tapes 10a, 10b are reversed of their N and S poles in a proper length interval.	MITSUBISHI HEAVY IND LTD	JP05211005	1993/8/3

308	VIBRATORY WING TYPE PROPELLING DEVICE FOR UNDERWATER ROBOT	PURPOSE : To provide a safe vibratory wing type propelling device by which failure is not caused by rolling in a suspended matter, rubbish or the like and a marine environment is not polluted and which is excellent in a shift to a rapid forward and backward movement and rapid stopping. CONSTITUTION : A device has underwater vibratory wings whose front end part and rear end part are fixed pivotally respectively to the respective outside ends of heaving rods 2 and pitching rods 3 extending in parallel with each other by passing penetratingly airtightly through an outside plate of an underwater robot body and have a symmetric wing shape cross section and the heaving rods 2, and has a heaving linear motor and a pitching linear motor to impart a shaft directional stroke to the pitching rods 3 respectively in the same desired period and a linear motor control circuit to control both linear motors so as to impart desired stroke and phase difference respectively to the heaving linear motor and the pitching linear motor. The heaving rods 2 and the pitching rods 3 are interlocked mutually through an interlocking	MITSUBISHI HEAVY IND LTD	JP05204718	1993/7/27
309	AUTOMATIC TRAVELING CONTROLLER OF RUNNING BODY	PURPOSE : To provide the automatic traveling controller of a running body, by which the running body such as an underwater robot can be travel automatically, and an operator's work burden can be reduced. CONSTITUTION : By ultrasonic sensors 2a, 2b provided on the side faces, respectively of an underwater robot 10, distances x1, x2 to a side wall surface 20c are always measured, and based on these measured distances x1, x2, an inclination angle [!theta!] of a center line A of the underwater robot 10 to a traveling scheduled line B on the bottom face 20a of a water intake route 20, and a deviation Δxc of the traveling scheduled line B and a center point C of the underwater robot is derived. Thereafter, based on these inclination angle [!theta!] and deviation Δxc, control is executed so that the underwater robot 10 travels on the traveling scheduled line B by controlling rotational speeds of wheels 11, 12 of the underwater robot 10, respectively.	MITSUBISHI HEAVY IND LTD	JP05154908	1993/6/25

310	The brush for removing shells water cleaning robot	Purpose : cutter is in direct contact with a surface to be cleaned without the possibility of the coating film, a coating film having excellent maintenance, therefore economical water cleaning robot brush for removing shells. Constitution : vertical type underwater protrusively formed at the lower surface of the body to an output shaft of the motor and coaxially mounted on the brush plate, attached to the brush plate through the plate downward and outward radially at equal intervals, and a plurality of brush and supported, at the end of each brush approx. coaxially and are attached respectively to the cutter for removing shells in water cleaning robot having, a triangular shaped section having an upright horizontal prism body 2 at both ends of the horizontal cross section of a prism body 2 having a cross section slightly larger than the sphere 3 is coaxially provided with a cutter 1.	ADVANCED N M R SYST INC	JP05033802U	1993/5/28
311	STRUCTURE FOR CARRYING IN AND OUT AND METHOD FOR CARRYING IN AND OUT OF UNDERWATER ROBOT	PURPOSE : To provide the manpower-saving and cost effective underwater working robot which can be safely and rapidly carried into and out of an intake channel without an operation to mount and dismount a weight by a diver and the method for carrying this robot into and out of a carrying-in/out port. CONSTITUTION : This underwater robot for removing shells is an underwater float of a vertically long rectangular shape, is maintained in a horizontal posture in the water by balancing of its own weight and buoyancy and is remote-controlled within the intake channel via a cable 2 extending through the carrying-in/out port on the ground. The robot described above has the weight 3 fixed near the end opposite to the mounting end of the cable 2 of the robot 1, a freely expandable and contractable air bag 4 and a long-sized air feed and discharge hose 6 which is connected at the bottom end to the air bag 4 and extends from above the ground to the bottom of the intake channel. The air in the air bag 4 is removed and the underwater robot 1 is hung in a vertical posture and is seated on the bottom of the intake channel by means of ropes at the time of carrying-in. The air is then injected into the air bag 4 through the air feed and discharge hose 6 to put the underwater robot 1 into the horizontal posture; thereafter, the robot is moved in the intake	MITSUBISHI HEAVY IND LTD; KORYO ENG KK	JP05151289	1993/5/28

312	CONTROLLER FOR POSITION AND POSTURE OF UNDERWATER ROBOT	PURPOSE : To enable the position and posture of a moving underwater robot to be held and set to the position and posture easy to operate a multiarticulated manipulator and the underwater robot even under the floating condition to be operated by the use of the multiarticulated manipulator. CONSTITUTION : The center of gravity position data 10 of an anchor arm are introduced by a twin arm model 5 and underwater robot model 7 on the basis of a twin arm operating command 2 and the vehicle center of gravity position data 3 in the initial posture of twin arm.anchor arm, and an anchor arm operating command 12 is outputted by an anchor arm operating command intoducer 11 to move the anchor arm 24 and hold the posture of an underwater robot 19. Also, the thruster.ballast tank operating command 18 is introduced and the thruster 23 and ballast tank 22 are driven to hold the position and posture of the underwater robot 19 by a vehicle position.posture controller 13, vehicle speed controller 15, thruster and ballast tank controller 17 on the basis of a vehicle position posture command 4.	MITSUBISHI HEAVY IND LTD	JP05123955	1993/5/26
313	The bottom structure of the conduit cleaning underwater robot	Purpose : the rotary brush of the waterway and does not damage the coating, peeling of the shells without leakage, the rotary brush is peeled off at the end of the skirt from being scattered to the outside of the shells without clearance, to reduce the size of the skirt, repair cost, manufacturing cost is reduced and cleaning expense, therefore economical underwater robot for cleaning the bottom of the conduit structure. Constitution : L is equal to the distance between the centers of the rotary brush and a rotary brush diameter D 0 80-95% a, minimum clearance S and the diameter of the rotary brush D 0 skirt 012 5-15% of the diameter of the rotary brush D 0 be equal.	MITSUBISHI JUKOGYO KK; KORYO ENJINIARINGU KK	JP05028540U	1993/4/30
314	Underwater plate thickness measuring		MITSUBISHI HEAVY IND LTD; PENTA	JP01012136U	1989/2/3

315	ANTISKID BRAKE DEVICE FOR VEHICLE	PURPOSE : To properly set the initial stage rapid pressure boosting quantity in a pressure boosting phase, in an antiskid brake control device, considering not only the pressure boosting time of the previous cycle but also behavior of a car body and road surface state. CONSTITUTION : In S83, a rapid pressure boosting time Tpz corresponding to the initial rapid pressure boosting quantity of initial rapid pressure boosting in a pressure boosting phase is set from the pressure boosting time Ti of the preceding cycle, and coefficients k1-k4 determined from maps having return acceleration, car body velocity, surface μ, and the pressure reducing time in the preceding cycle as parameters, respectively, the rapid pressure boosting time Tpz is corrected (S84-S87) when the road surface μ is changed, and the rapid pressure boosting time Tpz is further regulated for the upper limit by the upper limit value Tu determined from the road surface μ, and the upper limit value Tuv determined from the car body speed (S88-S90).	MAZDA MOTOR CORP	JP05112115	1993/4/14
316	UNDERWATER CLEANING AND RECOVERING ROBOT	PURPOSE : To perform stable running and to perform smoothly cleaning, removing and recovering of marine organisms with a large adhesion thickness by providing an underwater robot with a cleaning brush apparatus being freely swingable and freely stretchable, a suction recovery apparatus being freely vibrationable and freely stretchable and a wheel apparatus being stretchable on a main body. CONSTITUTION : An underwater robot 20 for cleaning and recovering has a body 21 provided with a cleaning brush apparatus 60 being freely pivotable around a shaft center 27 in the front and rear direction by 360° and stretchable, a suction recovery apparatus 90 freely swingable around a shaft center 27 in the front and rear direction and stretchable, and a plurality of wheel apparatus 30, 40 and 50. By this constitution, a cleanable condition can be made by bringing all the functions under their working condition and then, extending and stretching each apparatus. Then, marine organisms on each wall face 1a-1c can be scraped down by pivoting the cleaning brush apparatus 60 along the shape of the wall face of a water channel 1 within the range of 360°. In addition, the marine organisms piled on the bottom wall face 1c caused by scraping down can be sucked, recovered and transferred on the land by swinging the suction recovery apparatus 90 on the bottom wall face	HITACHI ZOSEN CORP	JP05077280	1993/4/5

317	SUBMERSIBLE ROBOT	PURPOSE : To provide a submersible robot useful in the work for laying a cable in the water or under the bottom of the water or in the maintenance work of pipe line. CONSTITUTION : The submersible robot comprises a probe 6 for detecting magnetic field generated directly or indirectly from an object A, and an optical azimuth meter 7. The azimuth meter 7 comprises a pair of optical fiber gyro arranged such that the axes of rotation detecting coils intersect perpendicularly while directing horizontally. The azimuth meter 7 is not susceptible to the magnetic field at all and determines the azimuth thereof correctly in the detection relying upon the magnetic field thus specifying the detecting	SUMITOMO ELECTRIC INDUSTRIES	JP05040987	1993/3/2
318	UNDERWATER EARTH AND SAND REMOVAL DEVICE	PURPOSE : To remove earth and sand efficiently by making ascending movement or descending movement of a screw arm so that load to be added to a sand collection screw may become the one that is within a predetermined range. CONSTITUTION : A controller 34 drives a screw hydraulic motor and rotates a sand collection screw 20 and at the same time drives a travel hydraulic motor 10 and advances a self-travel robot 12. Next, an oil pressure detection means measures oil pressure that meets load to be added to the screw 20 and sands an electric signal to the controller 34. Next, the controller 34 compares a measured value with the upper limit value set beforehand, and in the case of the measured value being less than the upper limit value, it further compares the measured value with the lower limit value, and in the case of the measured value being more than the lower limit value, biting depth of a screw arm 14 into earth and sand is maintained. Also, in the case of the measured value being more than the upper limit value, the arm 14 is lifted by contracting an arm actuator 16, and in the case of the measured value being less than the lower limit value, the	DENGIYOUSHIYA KIKAI SEISAKUSHO : KK	JP05053014	1993/2/18

319	The sand discharge underwater robot	Purpose : the downstream periphery of the dredging operations and to prevent spreading of pollution, work is prevented until the arrival of the underwater agitation of the sand discharge bottom. Constitution : diving dredged sediment deposited on the bottom of the sand and water in a robot, a web 2 to 4 having two drive wheels 3 and a robot main body 1 is installed, the sediment robot main body 1 is mounted on the front lower part of the suction port 7 attached to the robot main body 1 and a jet pump 6, attached to the top of the body 1 and is provided with a buoyancy tank 10.	ADVANCED N M R SYST INC	JP04090758U	1992/12/11
320	HEAT-RESISTANT NETWORK-POLYMER COMPOSITION BY BINARY CURE OF MIXTURE	PURPOSE : To provide the subject compsn. which gives a network polymer having a thermal decomposition point about 100°C higher than that of its base polymer alone without producing any by-product. CONSTITUTION : The compsn. comprises component (a) comprising a liq. monomer or oligomer which forms a base polymer when irradiated with ultraviolet rays at a specified irradiation temp. (Tuv) and component (b) comprising a monomer or oligomer which converts the base polymer into a heat-resistant polymer when thermally cured at a thermal curing temp. (TΔ) in an amt. of component (b) of 10-100wt.% of component (a). Component (b) dissolves or disperses in component (a) at a dissolution temp. (Ts). Ts is not higher than Tuv, which is lower than TΔ by at least 50°C.	THREE BOND CO LTD	JP05229710	1993/8/6
321	UNDERWATER MOUNTING AND DISMOUNTING MECHANISM	PURPOSE : To increase work efficiency by eliminating affection of water on various ports in a mounting and dismounting part. CONSTITUTION : A seal 4 with a reverse V-shaped annular groove 29 is installed in a seal flange 3 of a robot side mounting and dismounting part 2 located at a manipulator top 1, and an annular protrusion 30 is installed in a seal flange 9 of a tool side mounting and dismounting part 12. Also the annular protrusion 30 is fitted closely into the reverse V-shaped annular groove 29. A water drain port 7 and tool side air and water pressure ports are formed in the tool side seal flange 9, and a check valve 8 is mounted in the water drain port 7. The manipulator top 1 is mounted on the robot side mounting and dismounting part 2 through a pressing spring 5, and an electric connection port 10 is mounted on the top 1 and tool side seal flange 9.	TOSHIBA CORP	JP04320406	1992/11/30

322	In a polishing system [berunuipitsukuatsupu[berunuipitsukuatsupu]	An automatic polishing system for polishing semiconductor material is described. A robot and Bernoulli pickup are used to retrieve polished wafers from an underwater unload station which is located on a wafer polisher. The polished wafer is then deposited into a cassette which is located underwater.	モトロ ラ・インコ ポレ テッド	JP61504548	1986/8/25
323	CONTROL METHOD AND DEVICE OF REMOTELY OPERATED VEHICLE@(3754/24) ROV)	PURPOSE : To operate automatically the variable movement of remotely operated vehicle(ROV) which has been operated by an operator conventionally. CONSTITUTION : A controller 4 constructed with a neural network is connected to an ROV 1. An ROV output forecasting member 5 constructed with a neural network to forecast the movement of the ROV by inputting an instruction signal B from the controller 4 is provide. An evaluating member 6 to evaluate whether the movement of the ROV forecasted by the ROV output forecasting member 5 is approaching to an object value 7 or not is also provided. When the forecasted movement of the ROV is not approaching to the object value 7, the instruction signal B is corrected by learning in the	ISHIKAWAJIMA HARIMA HEAVY IND CO LTD	JP04277670	1992/9/24
324	METHOD FOR ESTIMATING DIMENSIONS OF UNDERWATER IMAGE	PURPOSE : To grasp an obstacle to the travel of a submersible robot, e.g. protrusion or a recess, quantitatively in advance. CONSTITUTION : A rule frame 3 defining a flat grid frame of predetermined dimensions is set on the submerged bottom of a ship 1 on which the submersible robot 2 travels. The rule frame 3 is then photographed by means of a submersible camera 4 mounted on the submersible robot 2 and a lattice fringe image thereof is displayed on the screen of a ground monitor television. The lattice fringe image is employed as a rule for estimating rough dimensions of travel stroke of the submersible robot.	MITSUBISHI HEAVY IND LTD; KORYO ENG KK	JP04199192	1992/7/2

325	UNDERWATER CLEANING ROBOT	PURPOSE : To save energy on moving and on cleaning by providing a robot body, moving fins and cleaning brushes for cleaning the wall surface of a channel and providing a cable for regulating the position of the robot body in the flow direction. CONSTITUTION : When a robot body 1 is made to flow together with fluid from the upstream side to the downstream side and reaches a fixed position, it is given position regulation by a cable 7 to stop at the fixed position. And, moving fins 2A-2D, 3A-3D are inclined in fluid, causing a swirling flow to be generated around the fins, permitting the robot body 1 to be moved sideways and vertically by the lift caused by the swirling flow. Therefore, the robot body 1 is moved to the desired position to be cleaned of the wall surface of the channel, and simultaneously, a cleaning brushes 4A-4H are surely pressed against the position to be cleaned by the lift caused by the moving fins 2A-2D, 3A-3D to perform cleaning.	HITACHI SHIPBUILDING ENG CO	JP04135430	1992/5/28
326	Underwater robot shell removing and recovering device	Purpose : shell removing and recovering hose to reduce pressure loss, and cost reduction of the operating costs of a recovery pump robot shell removing and recovering a submerged. Constitution : the recovery pump 6 at one end, the other end of which is connected to an underwater robot 11 and a recovery hose removing shells 10, 11 underwater robot, shell removing and recovering hose 10 through the recovery pump 6 and the shell and moisture collecting and separating the water from the water separator 7 and the shell · in removing shells robot, recovery pump 6 opposite the tooth profile rails 16, 17 and which is laid, and these profile rails 16, 17 and pinion 18 meshing with the rack 15, is fixed to the pinion 18, and a driving motor 19, the driving motor 19 is fixed to the rotation shaft of shell removing and recovering hose 10 is stretched and a drum 20 includes a hose composed of mobile machine 14, to reduce the pressure loss caused by	ADVANCED N M R SYST INC	JP03031592U	1991/4/8

327	WATER-WHEEL INSPECTION APPARATUS	PURPOSE : To obtain an apparatus, which inspects a water wheel safely, positively and quickly without water draining work. CONSTITUTION : A water-wheel inspection apparatus contains an underwater- inspection-robot pushing and returning device 5 in case body 4. The case body 4 is opened to a draft tube 2, which is connected to a water wheel 1, and connected to a manhole 3, which can be opened and closed with a cap. The pressure in the case body 4 is equal to the pressure in the draft tube 2. The device is supported so that the device can be pushed and retreated in the draft tube 2 with a driving device. An underwater inspection robot 10, to which a cable 11 wound around a cable winding device 9 is connected, is mounted on the device 5. The pressure in the case body 4 is made equal to the pressure in the draft tube 2. Under this state, the cap 3a is opened, and the unerwater- inspection-robot pushing and returning device 5 is pushed into the draft tube 2. Thus, the underwater inspection robot is started	MITSUI ENG SHIPBUILD CO LTD; TOKYO ELECTRIC POWER CO INC : THE; TOSHIBA CORP	JP04083967	1992/4/6
328	DEVICE FOR CUTTING CAUGHT FISHING NET	PURPOSE : To enable to safely and surely recover a fishing net caught by a fishing bank. CONSTITUTION : An ultrasonic wave cutter 6 for cutting a fishing net caught by a fishing bank is attached to an underwater movable robot 4 remotely operated from a place on the water to provide the device for cutting the caught fishing net.	FURUNO ELECTRIC CO LTD; TOMOE BOSAI TSUSHIN KK	JP04080860	1992/4/2

329	INSPECTION ROBOT BOTH FOR ON-HEIGHT AND FOR IN-WATER	PURPOSE : To enable underwater inspection in a storage pool, as well as on-height inspection inside/outside buildings, in an atomic power generation plant, with use of a simple inspection robot, by constructing this robot in a manner that it comprises a float equipped inspection unit body, a balloon, an annular buoyance body, a vertical-axis propeller. CONSTITUTION : A vertical cylinder like inspection unit body 1 is disposed at a central part of the apparatus. Annular floats 2 which contain a control unit, a power source unit, etc., are disposed on the inner peripheral surface of the inspection unit body 1 at a lower end thereof. A pair of winding drums 3 are disposed within the inspection unit body 1 and cables 7 are delivered therefrom. From lower ends of the cables 7 is suspended an illumination lamp equipped visual recognition mechanism 8. Further, a balloon 9 in which helium gas or the like is sealed is supported, via a mesh-like rope 11, by a central portion of a top plate of the inspection unit body 1. A hollow annular buoyance body 13 in which a helium gas or the like is sealed is disposed, via a stabilizer aggregate 12, at an outer peripheral surface of the inspection unit body 1. A movable flap 14 is disposed at an intermediate portion of the aggregate 12 and an elevation drive mechanism 16 including a propeller 18 is provided thereover.	ADVANCED N M R SYST INC	JP04103532	1992/3/30
330	UNDERWATER INSPECTING DEVICE FOR OUTER PLATE OF OCEAN STRUCTURE	PURPOSE : To obtain an underwater inspection device outer plate of for an ocean structure which can easily detect the inspection position, and is free from the danger in work, and being excellent in the efficiency and safety. CONSTITUTION : As for a storage vessel 2 having a plurality of outer plate inspection positions at a proper intervals in the lateral direction at a plurality of proper positions in the longitudinal direction of an outer plate 3, plural pairs of U-shaped guide rails 4 extending in the lateral direction of each outer plate 3 along a plurality of outer plate inspection positions and an inspection robot 7 which travels on the rail 4 and is equipped with an inspection mechanism for the outer plate inspection position and a cleaning mechanism for the outer plate inspection position are provided.	MITSUBISHI HEAVY IND LTD	JP04024735	1992/1/14

331	ROBOT TYPE UNDERWATER ATTACHMENT RECOVERY DEVICE	PURPOSE : To make a robot body compact by using an ejector driven by a driving water pump installed on the land regarding a robot type recovery device for removing attachment such as sediment and sea creatures in the water so as to recover it on the land. CONSTITUTION : An underwater attachment recovery device is provided with a robot body 1 self-containing a self-traveling mechanism; a removing device 2 fitted to the robot body 1 so as to remove the attachment; a recovery basin 8 installed on the land so as to accommodate the attachment removed by the removing device 2; and a recovery pipe 11 connected between the removing device 2 and a recovery hose with its tip part connected to the recovery basin 8. In such an underwater attachment recovery device, an ejector is connected to the intermediate part of the recovery pipe 11, and an ejector driving water pump 4 is installed on	MITSUBISHI HEAVY IND LTD	JP0335158 1	1991/12/12
332	SHELLFISH REMOVING COLLECTOR	PURPOSE : To obviate the needs for diving operation by divers for removing shellfish by a method in which shellfish deposited in a shellfish deposition pond connected to an intake path is sucked up by a remote-controlled underwater robot and sent by submersible pumps into a netted collecting cage set in the pond in a vertically movable manner. CONSTITUTION : An underwater robot 1 having a shellfish suction port 2 and a suction hose 3 is set on a shellfish deposition pond 18 connected to the intake path of atomic power plants and so forth in a traveling manner on the bottom. A netted collecting cage 7A is hung down in the pond 18 in a vertically movable manner and a submersible pump 4 is also set. Shellfish and dead shellfish which deposit on the bottom of the pond 18 are sucked up by the water robot 1 and sent with water to the cage 7A by the pump 4, where the shellfish only is separated from water and taken out. Shellfish can thus be safely	MITSUBISHI HEAVY IND LTD; KORYO ENG KK	JP0333349 6	1991/12/17

333	CARRYING IN AND OUT DEVICE OF CONDUIT CHANNEL CLEANING UNDERWATER ROBOT	PURPOSE : To make it possible to easily perform cleaning work even in a low ceiling conduit by carrying an underwater robot from a vertical man-hole to attract the robot on a rail, and moving it until the bottom of the conduit. CONSTITUTION : A holder 2 equipped with a rail is fixed to a man-hole 1, and a movable curve rail 6 is delivered. After that, a traveling cable guide roller 13 is assembled, once an underwater robot 11 is temporarily suspended, and a traveling cable guide 14 is provided. Then, the underwater robot 11 is soaked in water together with the traveling cable guide 14 to operate a robot thruster 10, and it is attracted on an upstream rail 3. The underwater robot 11 is moved to the bottom of the conduit to execute specific cleaning work. The robot 11 is carried out in a reverse procedure.	MITSUBISHI HEAVY IND LTD; KORYO ENG KK	JP03340200	1991/11/29
334	Culvert work underwater robot	Purpose : underwater robot for work in the conduit, and when moved in the direction for maintaining a balance, since the thruster must be installed and the cost is high, and the work by unnecessariy underwater work, and since a large reaction force of the robot is unstable. Therefore, to improve these points. Constitution : has a dedicated [...] forward 5, through a cable conduit for remote operation of the working robot 1 approximately neutral buoyancy in water, the upper side of the main body of the robot, left side, right lower side 3 of a pair in the longitudinal direction 1 projecting outward in the radial direction is brought into contact with the conduit wall to the tip 6 of the elastic pad 4 having an upper leg 3 U, left leg 3 L, right lower leg 3 R provided, back through the wire 7 land winch 8 by a robot main body 1 is pulled backward.	ADVANCED N M R SYST INC	JP03100236U	1991/11/8

335	Robot for cleaning out device for conduit	Purpose : in and out in a state of considerable velocity even when working with water, underwater robot in a stable condition in which the conduit wall can be handled, not necessary to stop the power plant economical robot for cleaning out of the conduit. Constitution : the front end of the cable is connected to a conduit of a robot in flowing water into and out of the manhole in a device from the ground, the conduit 06 vertically along one side wall of a manhole 08 and deepest, manhole 08 from left and right ends of the upstream side of the conduit 06 is extended to the bottom of a pair of right and left 1 and a vertical vent rail 2, each rail 2 can be elevated along the front projecting bending straightening cover 5 is attached and a rectangular baffle plate for relieving flow 3, out of the water when the underwater robot 05 05 07 of the upstream side of the robot to reduce water flow velocity.	ADVANCED N M R SYST INC	JP03029400U	1991/4/2
336		PURPOSE : To execute a work speedily, by coating the surface of the sticking substance of an stuck object, with hardening sticking filler, to form a sticking member, and by making the sticking member stick the object by means of adsorption, holding, or the like. CONSTITUTION : The surface of the stuck substance 7 of algae, barnacles, and the like stuck on the surface of an stuck object 6 is coated with the hardening sticking filler or submarine hardening cement or the like (e.g.), to form a sticking member 8. Then, after the surface of the sticking member 8 is flattened, an adsorption pad 9 fitted on a stuck leg 3 of a submarine work robot is sucked on the sticking member 8. In this manner, the robot can be stuck without cleaning the stuck substance 7 stuck on the surface of the stuck object 6.	KOGYO GIJUTSUIN	JP60176903	1985/8/13

337	Self-propelled underwater work robot	Purpose : inspecting or repairing an underwater marine structure such as a self-propelled underwater work robot, particularly for running water in front of the device for removing material adhering to the roller is mounted, a rolling surface of the roller for travel of water can be surely carried out. Constitution : the robot main body 10 pivotally mounted to a pivot support shaft 16, a pair of rotary shafts 19 are provided at the left and right, bent downward, on each of its end frame 4 is mounted on the frame 4 is integrally attached to the frame 6, by the turning of the turning shaft supporting shaft 16 for changing the traveling direction of the moving roller 2 when, by turning the same angle, a wire brush or the like, moving roller 2 in front of the width W 2 M is formed of periphyton removing surface.	ADVANCED N M R SYST INC	JP0307515 7U	1991/8/26
338	Underwater work robot	Purpose : fully automatic, wheel omniazimuth direction prior to movement of the wall structure of the underwater periphyton is removed, after removing the periphyton wheel can be moved, thereby saving properties, excellent in safety and precision work underwater work robot. Constitution : pivotally mounted on the carriage 1 is inserted crosswise arranged in two or more rotary vertical cylinder 3 and 3, respectively, at the lower end of each rotating vertical cylinder 3 coaxially and microamount annular wire brush 8, on a vertical center line of each rotating vertical tube 3 in which the lower end of a circular annular wire brush 8 attached to a vertical center positions in a cylinder 3 is brought into contact with the object wall end is self-propelled and wheel-driving motor for the electromagnet 14, attached to the carriage 1 and a motor for turning the wheel 14 and turning, and the motor control mechanism 2 is provided.	ADVANCED N M R SYST INC	JP0307582 8U	1991/8/27

339	SUBMERGED ROBOT FOR CULVERT WORK	PURPOSE : To improve such defective problems as requirement of provison of a thruster so as to maintain a balance and directional property during movement, duly causing an increase in a cost and to improve any unstable state of a robot owing to a high reaction force depending upon a kind of a work during an underwater work. CONSTITUTION : In an approximate neutral buoyancy submerged robot for a culvert having a screw propeller 5 and remotely controlled through a cable, respective pairs of expandable upper legs 3U, left lower legs 3L, and right lower legs 3R at the front and the rear, protruded radially outwardly and each provided at its tip with a pad 4 making contact with a culvert wall surface 6 are arranged in three directions of the upper side, the left lower side, and the right lower sides, respectively, of a robot body 1.	MITSUBISHI HEAVY IND LTD	JP03244564	1991/8/29
340	Underwater work robot with obstruction remover	Purpose : running in the direction of the travel of the shell while removing antialgal obstacle along the surface of an underwater structure capable of traveling underwater work robot with an obstruction remover. Constitution : relatively flat bottom surface of the main body 3 is attached to each of four corners of the roller 4, running along a wall surface of an underwater structure 2 having a thrust of the underwater structure also has a suction force against the wall 2, by remote control through the cable in the same wall surface of an underwater structure by leaving a constant running clearance of inspection, repair work, etc. in underwater work robot, the robot main body integrally provided on the front end of the wall and running	ADVANCED N M R SYST INC	JP03072960U	1991/8/19

341	Such a vacuum suction type bottom sediment collecting device	Purpose : to remove accumulated material or marine organisms, for recovery of the recovery device, especially a water suction part for recovery of working robot · reduce weight and size, deposits on suction vacuum suction system is employed, to improve the reliability of operation, the deposit of large particle size can be recovered. Constitution : of deposit on the bottom of the suction unit 10 for sucking a robot for underwater operation 9 and, via a hose 8 is connected to the suction part 10 is installed on a ship or a land section of a vacuum tank 1 and, in order to maintain the vacuum in the vacuum tank 1 to the vacuum tank 1 and attached to the vacuum pump 2 is provided. Therefore, a small · 9 robot for underwater operation so as to weight, than a conventional robot in recovery pump system reliability is improved and, even if deposits of large particle size can be collected.	ADVANCED N M R SYST INC	JP03067929U	1991/7/31
342	Underwater cleaning robot traveling automatic stopping device	Cleaning the surface of a water wall in the recess of the other collision walls off the robot loses the support wall to prevent swimming in the water. The robot main body 2 drive wheel 4 rear belly, a cleaning brush with water while traveling longitudinally on the wall 6 at the center of the cleaning water in the cleaning robot 1, front and rear driving wheels 4 mounted ultrasonic sensor 10 before downward position, the ultrasonic sensor 4 is automatically stopped by the opposite wall of the recess in the drive wheel generates an abnormality signal.	三菱重工業株式会社	JP03051862U	1991/6/10
343	In the feeding cylinder with the robot	The sea water used in a robot suitable for park aquarium, the fish bait to correctly perform feed, for feeding a cylinder in which the feed piston is designed so as to be extruded. In underwater robot 3, toward the end with the opening 16b and cylinder for feeding water, the cylinder 16b and 16b in order to feed water filled in the cylinder 17 and the piston 21 to push fit within, the piston 17 and 18 of the driving mechanism, the driving mechanism 18 may be provided for feeding the control system and the remote control, 16b in which the feed water 17 is pushed toward the piston cylinder 21 properly.	三菱重工業株式会社	JP03040286U	1991/5/1

344	WATER PURIFYING ROBOT	PURPOSE : To eliminate the need for operational skill by providing a buoyancy chamber furnished to the main body of a robot and producing buoyancy by the internal gas, a means for supplying or discharging the gas to and from the chamber and a thruster fixed to the main body and generating horizontal thrust. CONSTITUTION : A gas is supplied or discharged to and from a buoyancy chamber 2, and a hoirizontal thrust is generated by a motor-driven thruster 13 fixed to the main body of the underwater robot 1. The gas is supplied or discharged to and from the chamber 2 to float or sink the robot, and the robot 1 is vertically moved without changing the direction of the thruster 13. The thruster 13 is used only for the horizontal movement, the robot 1 is floated or sunk by supplying or discharging air to and from a buoyancy control chamber 3, and hence the robot is never damaged by the solid in water. Furthermore, since the robot 1 is easily sunk, landed or floated by the operation of a valve on the water surface, the robot is excellently manipulated.	MITSUBISHI HEAVY IND LTD	JP03079890	1991/4/12
345	UNDERWATER WALL SURFACE WORKING ROBOT	PURPOSE : To provide an underwater wall surface working robot, sucked to an objective wall surface by displaying powerful suction force, and making large-scale underwater work for a long time and in safety. CONSTITUTION : A robot performing various kinds of observation and work while remote-controlled via an underwater cable and moving along the underwater wall surface is provided with a crawler 12 composed of a right and left pair of crawler belts provided in parallel along both the sides of rectangular bottom plate 16 appendantly provided on the lower parts of a robot main body 11, and a suction means sucking the bottom plate to an underwater wall surface by filmlikely jetting outside sea water into a clearance between the bottom plate 16 and the underwater wall surface 1 along the bottom plate 16 from nozzles 15 appendantly provided on the bottom plate 16 with pumps 13 and 14 appendantly provided.	MITSUBISHI HEAVY IND LTD	JP03089752	1991/3/28

346	SWIMMER PURSUING ROBOT	PURPOSE : To provide a swimmer pursuing robot for elucidating proper motion based on a scientifically controlled style of swimming by always pursuing and catching the swimmer with built-in detecting means such as underwater CCD camera and sensor. CONSTITUTION : A robot RO consists of a main body 1A having a control means built therein and travelling along a pool side 1C, a probe 1B having a CCD camera 15, illumination lamp 16 and pool wall detecting sensor A12, head detecting sensor 11, feet detecting sensor 13 and pool wall detecting sensor B14 attached thereto and an arm 1D for interconnecting fixedly the main body 1A and probe 1B. First, the robot body 1A is installed on the pool side 1C such that a swimmer enters the detecting range of the head detecting sensor 11 of the probe 1B and feed detecting sensor 13 and is progress direction is parallel to the probe 1B. Next, the output terminal AC of the robot body 1A is connected to the outside power source. By depressing a start button, the robot RO detects automatically the swimmer to start the pursuit.	ADVANCE CO LTD	JP03128840	1991/3/15
347	Underwater cleaning robot attitude indicating device	In the posture of the cleaning water is displayed to the outside, and the rollover prevention operation of the robot, to improve efficiency of the cleaning operation. The robot body is set to X, Y, Z axis are respectively provided with a plurality of pairs of phase 1 mounted on the tilting sensor 1 - 6 90° addressed, each tilt sensor 8 converts the voltage signal from the analog input card 9 A/D 1 - 6, the first communication board 10 and converts the output of the analog input card 1 9 at an angle, the first angle signal transmitted to the outside of the robot 1 12 10 1 communication board 11 and second radio, the robot main body 11 of the first angle signal received by the first radio 1 outside of the wireless device 2 13, 13 2 15 16 2 through the first wireless communication board of the first angle signal is input to the computer 17 and dimensional synthesis, the CRT18 equipped computer 17 is	三菱重工業株式会社	JP03007766U	1991/1/28

348	DEPTH SOUNDING ROBOT	PURPOSE : To save labor by a method wherein a pole equipped with a staff and a depth sounder are installed to an underwater boat which is equipped with a depth adjusting tank and a propeller, and distance to underwater foundation is measured with the underwater boat running at a fixed depth. CONSTITUTION : An underwater boat 1 is put under remote control executed by a support ship 13 through an antenna 14, and is made to run at a fixed depth. Measurements are made on a measuring point simultaneously to find the position of a staff 9 with a level 10, to sound the depth with a depth sounder 5, and to find the measuring position with a range finder 11. Then the levelled height of a levee crown and others are obtained from the measured values of the depth sounder 5 and the level 10. Thereby measurement for rubble-mound levelled height for the levee crown can be made easily and	UNYUSHIYOU DAISAN KOUWAN KENSETSU KIYOKUCHIYOU; OOMOTOGUMI : KK	JP02286344	1990/10/24
349	DIRECTIONAL PATTERN MEASURING DEVICE FOR PLANE WAVE RECEIVER ARRAY	PURPOSE : To simultaneously measure three-dimensional directional pattern by transmitting an ultrasonic wave pulse by a pinger placed in a submarine, and obtaining a phase of an output levels of received wave signals by wave receiving elements. CONSTITUTION : In a plane wave receiver array 1, (N × N) pieces of wave receiving elements are arranged on a flat surface, and received wave signals of the elements are output to a receiver 2. When an ROV 8 is moved to a designated position, the receiver 2 sends a trigger signal to a pinger 7 at each predetermined time, the pinger 7 transmits an ultrasonic wave pulse toward the array 1 at each time, the array 1 sends the received wave signal to the receiver 2, the receiver 2 amplifies it, and sends it to a multi-channel FET analyzer 3. Then, the analyzer 3 Fourier-converts it at a high speed, sends voltage and phase information to a pinger azimuth calculator 5, the calculator 5 calculates the azimuth and the zenith angle of the pinger 7 from the voltage and phase information, and sends them to a wave receiver directional pattern measuring unit 4 to simultaneously calculate three-dimensional directional pattern after	NEC CORP	JP02234855	1990/9/5

350	MEASURING INSTRUMENT FOR COD OF WATER	PURPOSE : To automatically measure the chemical oxygen demand quantity (COD) by no-maintenance for a long period by deriving the absorbance of ultraviolet rays by subtracting an attenuation value of a visible light from an attenuation value of ultraviolet rays allowed to transmit through water which is led into a transparent cylindrical body by a wiper. CONSTITUTION : A case 1 is suspended into the water of a prescribed depth by a cable 12, a wiper 5 is allowed to ascend by a motor 7 and water is led into a water cylinder 4, and whenever the wiper 5 ascends, a measurement is repeated. Subsequently, from the photoelectric tube 21, and a photoelectric tube 27, an attenuated ultraviolet-ray output, and a reference light are inputted to a divider, respectively through amplifiers 34a, 34b, BPFs 35a, 35b, and rectifying circuits 36a, 36b, respectively, and by deriving a ratio of the attenuation light and the reference light, and inputting it to a logarithmic amplifier 38, the ultraviolet-ray attenuance Auv is outputted. In the same way, a visible light and a reference light of an LED 28 are also amplified 39a, 39b, respectively and inputted to a logarithmic amplifier 43 and the visible light attenuance Avis is derived. Next, a difference of the attenuances Vuv, Vvis derived by a computing element 44 becomes the ultraviolet-ray absorbance absorbed by organic matter which eliminates an attenuation caused by suspended	TSURUMI SEIKI : KK; DAMU SUIGENCHI KANKIYOU SEIBI SENTAA	JP02112842	1990/4/28

351	POSITION DETECTING DEVICE OF UNDERWATER WORKING ROBOT	PURPOSE : To accurately grasp whether or not the underwater working robot in a covered conduit shifts in position from the covered conduit section by stably displaying the position of the underwater working robot on a screen. CONSTITUTION : When ultrasonic waves are sent by ultrasonic wave vibrators h1 - h4 fitted to the underwater working robot, a gate circuit 12 opens the gate for a constant period corresponding to the transmission timing. Every time each distance data obtained by sending an ultrasonic wave in the same direction is inputted in series, the data shift part 26 of an arithmetic processing part 22 outputs plural distance data in parallel while shifting them, and those data are transferred to a variance removal part 28, which remove the maximum and minimum values from the respective distance data. A averaging part 30 calculates the mean value of the remaining distance data, a comparison part 32 compares the difference between the obtained mean value and last means value with a threshold value; when the difference is less than the threshold value, a data update part 34 judges that the movement quantity of the underwater working robot is proper and updates the old data into new data. The position of the underwater working robot is stably displayed on the screen of a monitor	FURUNO ELECTRIC CO LTD	JP02106006	1990/4/20

352	PENETRATION FLAW DETECTING AND TESTING DEVICE	PURPOSE : To accurately position an underwater robot in a desired area and to blow flaw detecting liquid effectively by isolating the flaw detecting liquid chamber and water chamber of a flaw detecting tank by a partition wall from each other and compensating the injection amount of flaw detecting liquid by supplying water to the water chamber. CONSTITUTION : The water of a flaw detecting liquid system whose solenoid valve is opened with an external signal is injected into the water chamber sides of flaw detecting liquid tanks 20a and 20b to press up partition plates 21a and 21b which are arranged in the flaw detecting liquid tanks 20a and 20b to isolate the flaw detecting liquid PW and water. Further, the flaw detecting liquid PW is injected from nozzles 2a and 2b through check valves 23a and 23b. Further, the generation of buoyancy due to the injection of the flaw detecting liquid PW or water is prevented by sucking the water in a runner into the water chamber sides of the tanks 20a - 20c by the injection amount. Consequently, the underwater robot can accurately be positioned in a desired flaw detection area through remote operation and the injection resistance of the flaw detecting liquid PW from nozzle groups 2a - 2e becomes small.	TOSHIBA CORP	JP02082077	1990/3/29

353	SUBMERSIBLE OCEAN EXPLORATION ROBOT	PURPOSE : To make a local precision probe performable along with ocean exploration at an extensive sea area by installing a robot body with planes, a propeller having this robot body self-propelled, an attitude control mechanism with a weight and a means for towing the robot body, respectively. CONSTITUTION : In the case of a towing mode, both propellers 14, 15 are stopped, and ocean exploration is performed by a towing rope 50, and underwater sailing depth is controlled by what a weight 34 is moved in front and in the rear. In the case of a self-propelled mode, a robot sails with each propulsive force of both port and starboard propellers 14, 15, and power supply to these propellers 14, 15 is performed via the towing rope 50, but this rope 50 gives no towing force to a robot body 10. The underwater sailing depth is controlled by moving the weight 34 in the longitudinal direction, and its turning motion is carried out by rotating both these port and starboard propellers 14, 15 in the opposite direction with each other. Thus, the robot body 10 is carried up to the destination by a mother ship 60, and it is brought down underseas at the specified sea area, performing the ocean exploration by means of both towing and	KIYUUSHIYUU DAIGAKUCHIYOU; MITSUI ZOUSEN AKISHIMA KENKIYUUSHIYO : KK	JP02068164	1990/3/20

354	UNDERWATER POSITION DETECTOR	PURPOSE : To easily detect the position of objects by measuring the propagation time and waveforms of the acoustic waves transmitted in plural directions from the ultrasonic oscillators or objects embedded in respective flow passages in which the objects are embedded by successively changing the directions where the acoustic waves are received and comparing the measured values with the preset position of the object and transmitting time of the acoustic waves. CONSTITUTION : The ultrasonic oscillators 3 are embedded in the peripheral parts of the runner cone parts 2 of runners 1 of a water-wheel so as to face the outlets 5a thereof for each of the flow passages 5 of the runners 1. The waves are transmitted and received while the respective ultrasonic oscillators 3 are driven by successively changing the directions where the acoustic waves are received. The waveforms of the signals received from the respective ultrasonic oscillators 3 are compared at all times with the waveforms of the signals received just before this reception. Namely, the waveforms of the received signals vary with whether a robot 4 for inspection is inserted into the flow passage 5 or not; therefore, the presence of absence of the robot 4 for inspection in the flow passage 5 is decided by measuring the correlations of the respective waveforms.	TOSHIBA CORP	JP02070742	1990/3/20
355	METHOD FOR MEASURING SUSPENSION LENGTH OF LONG-SIZE BODY TO BE LAID ON THE BOTTOM OF WATER	PURPOSE : To measure the suspension length of a long-size body to be laid on the bottom of water by providing in advance suspension measuring marks on the surface of a submarine cable, etc., at regular intervals. CONSTITUTION : A long-size body 3 provided in advance with suspension measuring marks 4 at regular intervals on the surface is used as a long-size body 1 to be laid on the bottom of water, e.g. a cable or a water pipe, and the suspension length L of the body 1 is measured with a remote operate vehicle(ROV) on the basis of the marks 4. The intervals (l) of the marks 4 are made equal to the suspension length allowable to the sea area where the body 1 is installed. When these marks 4 are utilized, the suspension length L can be measured even by	FURUKAWA ELECTRIC CO LTD	JP02062652	1990/3/15

356	SYSTEM AND METHOD FOR DISCRIMINATING OB- JECT	PURPOSE : To quickly search an unknown object provided in or on the bottom bed of the sea or in the sea by predeciding a reflected and scattered signal generated from a basic object and comparing the signal with a reflected and scattered signal from the unknown object. CONSTITUTION : A self-traveling remotely-operated vehicle(ROV) 1 is connected to a mother ship on the surface of the sea through a connecting cable 2 for control and communication. The ROV 1 is equipped with a sonar transmitter 3 and a sonar receiver 4. It is considered that a cable 5 to be searched is in a nonconducting state and no communication signal nor electromagnetic signal is inducted in the cable 5 in any form. Then the unique reflected and scattered signal which is generated from a basic object composed of a cable, etc., when a sonar signal is made incident to the cable 5 is decided in advance and an unknown object, such as a cable, etc., is searched by comparing the reflected and scattered signal from the basic object with a reflected and scattered signal from the unknown object. Therefore, the unknown object can be searched with a sufficiently high percentage of success.	AMERICAN TELEPHONE TELEGRAPH	JP0231303 9	1990/11/20
357	ROBOT DEVICE FOR WATER QUALITY MEASUREMENT	PURPOSE : To measure the water quality in a wide area by connecting an underwater robot which can self-cruise having a function to measure the water quality and the like under the water, to a self-cruising surface robot connected to a control center on the land side through a cable, through a transmission cable. CONSTITUTION : While a water-surface robot 23 which can self-cruise on the surface of the water by a thruster or the like, and a control center 25 provided on the land side are connected by a tether cable 1 floating on the water being a signal transmission cable, a self-cruising underwater robot 21 is connected to the water-surface robot 23 through an umbilical cable 22 being a motive power and signal transmission cable. And the water-surface position measuring function including a receiver antenna 29 when a radio navigation is applied, and an underwater position measuring function of the underwater robot 21 including a hydrophone 3 cooperating with a sound transponder 4 at the underwater robot 21 side are provided to the water-surface robot 23. And a water quality measuring function and an underwater TV camera are provided to the underwater robot 21.	KANSAI ELECTRIC POWER CO INC : THE; MITSUI ENG SHIPBUILD CO LTD	JP0130753 9	1989/11/29

358	UNDERWATER-POSITION RECOGNIZING APPARATUS	PURPOSE : To measure and display the position of a body under test even in an underwater tunnel having a long distance and a small diameter wherein the S/N of a received signal is decreased by transmitting and receiving an ultrasonic wave based on a transmitting signal whose self-correlation function is an impulse function. CONSTITUTION : This apparatus has the following parts : an underwater robot 1 as a body under test which is moved in the water; a transmitter 2 of ultrasonic waves on one side of an underwater reference position A; and a receiver 3 on the other side. A signal generating part 6 generates a digital transmitting signal whose self-correlation function is an impulse function for a processing and display device 4 on the ground. The transmitting signal is supplied to a the transmitter 2 through a cable 5. An operating part 8 performs the operation of correlation function between the transmitting signal and a digital received signal which is inputted from the receiver 3 through a cable 7. Thus, a distance L between the robot 1 and the reference position A is computed. Then, the position B of the robot 1 is displayed on a display part 9 based on the result of the operation in the operating	CHUBU ELECTRIC POWER CO INC; HITACHI ZOSEN CORP	JP01065676	1989/3/17
359	UNDERWATER ROBOT	PURPOSE : To obtain an underwater robot performing follow-up action with movement of a mother ship by controlling a thruster and a propulsion part being based on information from a reception part, receiving a signal from the mother ship, and an obstacle detecting sensor. CONSTITUTION : An underwater robot 1 is constituted of a robot main unit 2, reception part 4 receiving a signal from a mother ship, obstacle detecting sensor 5, thruster 7, propulsion part 8 and a control mechanism 10 or the like controlling the thruster 7 and the propulsion part 8 being based on information from the reception part 4 and the obstacle detecting sensor 5. Accordingly, the signal from the mother ship 3 is received by the reception part 4, because the thruster 7 and the propulsion part 8 are controlled by the control mechanism 10, the underwater robot 1 performs follow-up action with movement of the mother ship 3, and the water in a water area to be desired for observation can be observed by the underwater robot 1. While the underwater robot 1, even when it detects an obstacle in the water, automatically avoids the obstacle by the obstacle detecting sensor.	SASEBO SENTAN GIJUTSU KAIHATSU KYODO KUMIAI	JP63177439	1988/7/15

360	NEUTRAL BUOYANCY CABLE	PURPOSE : To prevent a cable from being caught in a thruster by changing a degree of buoyance in the length direction of a cable. CONSTITUTION : A normal neutral buoyance cable is used for 1, while a cable on the side of a launcher 4 a high buoyance cable 11 given high buoyance is for a cable on about one third on ROV 2 side. Accordingly, even when the ROV 2 retreats, the part of the high buoyance cable 11 close thereto rises to a position higher than a thruster 3 and the cable is not caught by the thruster 3. As a means for giving high buoyance to a part of the cable in the length direction, manufacture of a series of cables having different degrees of buoyance in the length direction such as giving high buoyance along the prescribed length, when the cable is manufactured in a factory, is desirable. Thereby, the cable is prevented from being caught by the thruster during its use in the sea.	SUMITOMO ELECTRIC IND LTD	JP6229436 0	1987/11/21
361	UNDERWATER ROBOT	PURPOSE : To make it possible to actuate an unmanned and wireless underwater robot by providing a receiver for receiving instructions from a control section on the water surface, an obstacle sensor, a thruster and a control mechanism for controlling the thruster, to the underwater robot. CONSTITUTION : An unmanned and wireless underwater robot 1 has a robot body 2 formed of a pressure-proof container, a receiver 4 for receiving instructions from a control section 3 on the water surface, and an obstacle detecting sensor 5 for detecting an underwater obstacle, and also has a thruster 7 for adjusting the inclination of the robot, a thrust section 8 for moving the robot 1, a submerging and floating mechanism 9 and a control mechanism 10 for controlling the thruster and the like. Ultrasonic waves transmitted from the control section 3 on the water surface is received by the receiver 4 provided on the underwater robot body, and accordingly, the underwater robot is	SASEBO SENTAN GIJUTSU KAIHATSU KYODO KUMIAI	JP6228455 4	1987/11/10

362	UNDERWATER ROBOT	PURPOSE : To make it possible to observe an underwater condition even with an unmanned and wireless underwater robot by receiving signals from a mother ship so that the underwater robot 1 may freely sail underwater following up the sailing of the mother ship. CONSTITUTION : A positional signal always transmitted from an ultrasonic wave transmitter 11 in a mother ship 3, is transmitted through the underwater to a pair of receives 4 in an under-water robot 1, and a position of the underwater robot, relative to the mother ship 3 is calculated in accordance with data from a water depth sensor and output from the receivers. An obstacle detecting sensor 5 for detecting an underwater obstacle during underwater sailing is provided on the forward side of the robot body 2 so as to automatically evade an obstacle. Further, there are provided a diverging and floating mechanism 9 and a control mechanism 10 for controlling a thruster 7 and a propelling section 9 in accordance with data from the receivers 4 and the obstacle detecting sensor 5.	SASEBO SENTAN GIJUTSU KAIHATSU KYODO KUMIAI	JP62284555	1987/11/10

363	COMBUSTION SAFETY DEVICE	PURPOSE : To enable a state in which a photo-electrical tube approaches a condition of performing a self-discharging operation to be forecasted by a method wherein a trouble forecasting sensor is made in which an electrical current from the photo-electrical tube and a signal from a controller are inputted, they are calculated and an output based on a result of calculation is outputted. CONSTITUTION : After a photo-electric tube 3 performs an electrical discharging by a flame for a desired period of time, a combustion terminating signal is outputted from a temperature adjuster. Then, a controller 4 may advance a sequence for terminating a combustion to close a solenoid valve 1, and at the same time to start a trouble forecasting system. It is judged if a tube current iuv of the photo-electrical tube 3 is lower than a tube current set value I0 and further it judges whether or not the time tuv in which the tube current iuv exceeds the tube current set value I0 is higher than the set time t0. It the time tuv is less than the set time t0, a warning signal that the solenoid valve 1 is not completely closed or the photo-electrical tube 3 is deteriorated is outputted under an outputted display A1. It the time tuv is more than the set time t0, a poor closed condition of the solenoid valve 1 or a deterioration state warning of the photo-electrical tube 3 is outputted through the output display B1.	YAMATAKE HONEYWELL CO LTD	JP62232652	1987/9/18

364	AMUSEMENT EQEIPMENT	PURPOSE : To enjoy various undersea trips with stories just like the old fairy tale of 'URASHIMA TARO' by going under a water tank from a ground zone, arriving at the Sea God's Palace, seeing the shows of a stage and the water tank and then experiencing the undersea trip/an undersea future city tour by video projection. CONSTITUTION : When a passenger gets on a vehicle 8 in the shape of a turtle, the vehicle 8 is started to move by driving from a machine room. The vehicle 8 goes from the ground zone 2 to the ground →an undersea entrance zone 3 and is lowered. At the time, since it is moved going under the water tank 10 on an entrance side, the passenger feels as if he becomes 'URASHIMA TARO' and actually goes under the sea. When the vehicle 8 arrives at the Sea God's Palace 4 on the entrance side, the passenger sees the show of robots in the shape of a fish as well on the stage 12 feeling as if receiving the warm reception of 'OTOHIMESAMA' this time and sees an underwater show in the water tank 10. At the time of leaving the Sea God's Palace 4 on the entrance side and entering an undersea trip/undersea future city tour zone 5, the passenger is surrounded by video images projected to a screen or a multi- television, etc., provided on the ceiling and a side wall, etc., by a video projection	ISHIKAWAJIMA HARIMA HEAVY IND	JP62231670	1987/9/16
365	CONNECTION OF CONDUIT TO SUBMARINE STRUCTURAL BODY AND APPARATUS USED TO CONNECTION OF CONDUIT END TO SUBMARINE STRUCTURAL BODY	PURPOSE : To connect a conduit to a subsea structure irrelatively to weather and depth of the sea by gripping the conduit end with a remote-controlled (ROV) with a gripping manipulator, and introducing the conduit end like a piston into a receiving member having a sucking device of the subsea structure. CONSTITUTION : When an (ROV) 9 is advanced to the right position by a propelling unit, a winch and level adjusting means 19, 20, a conduit jaw 15 is released and the conduit 8 is moved to the position under a funnel 2 by a gripping manipulator 10. Then the conduit end 8 can be inserted like a piston into the funnel 2. After that, a source of negative pressure is connected to a connecting sleeve in the funnel 2 to provide a negative pressure therein. Consequently, negative pressure is generated so that the conduit end is sucked into the funnel and secured thereto.	KUBAANAA SABUSHIA KONTORAKUTEI	JP63145968	1988/6/15

366	FIXING LEG CONTROLLER FOR UNDERWATER WORK ROBOT	PURPOSE : To semiautomatically fix an underwater work robot at the desired position of an offshore structure by fitting a position sensor, a pressure sensor, a proximity sensor, and a force sensor to each fixed leg having a suction pad at its tip. CONSTITUTION : A suction pad is fixed to the tip of each fixed leg to fix an underwater work robot to an offshore structure. A position sensor 32, a pressure sensor 33, a proximity sensor 34, and a force sensor 35 are fitted to the fixed leg. The position sensor 32 among these sensors is used to control each joint angle for deploying the fixed leg, and it is also used to control the distance between the underwater work robot and the offshore structure after it is fixed and the attitude of the fixed leg. The pressure sensor 33 is used to control suction and suction force, and the proximity sensor 34 is used to control approaching speed for avoiding a collision with the offshore structure and to control the drive of a suction pump after contact. The force sensor 35 is used to detect the external force applied	AGENCY IND SCIENCE TECHN	JP62159689	1987/6/29
367	POSITION CONTROLLING SYSTEM FOR UNDERWATER ROBOT	PURPOSE : To attain automatic tracking of an abject by using an output of a built-in focus sensor so as to control a screw. CONSTITUTION : An output of a focus sensor 20 provided to a TV camera built-in an underwater robot is given to an automatic position holding attitude controller 27 via a comparision discrimination circuit 21, and amplifier 22 and changeover switches 24, 25 together with an outputs of a depth indicator 12, an azimuth meter 13, a roll sensor 17, a pitch sensor 18 and a yaw sensor 19. The output of the controller 27 is fed to a thrust distribution arithmetic circuit 28, horizontal vertical screws 8, 9 are controlled via a driver 29 for screw based on a command of the circuit 28 and the robot is moved in forward/backward direction till the focus of the object is formed on the sensor 20. Through the constitution above, the object is traced automatically.	MITSUI ENG SHIPBUILD CO LTD	JP62091930	1987/4/16

368	UNDERWATER ROBOT ACOUSTIC POSITION MEASUREMENT SYSTEM	PURPOSE : To improve the measurement accuracy for the position of an underwater robot and to improve its operability by connecting a mother ship and a launcher, and the launcher and the underwater robot by cables. CONSTITUTION : A signal from the motor ship 3 is transmitted to the robot 4 through a cable 10, the launcher 9, and a cable 13. Then an acoustic wave from a responder 14 fitted to the robot 4 is received by the receiver of the hydrophone 12 of the launcher 9 to measure the position of the robot 4. In this system, the signal sent by the cables 10 and 13 reaches the launcher 9 and robot 4 instantaneously, so the time required for the position measurement is shortened to half and sampling cycles are shortened, , so that the position measurement is performed with high accuracy. Further, only the responder 14 is installed on the robot 4 and a receiver which is a heavy structure can be omitted, so the robot 4 is reduced in size and its	MITSUI ENG SHIPBUILD CO LTD	JP6206570 1	1987/3/23
369	FIXING DEVICE FOR UNDERWATER MOBILE ROBOT	PURPOSE : To strongly and stably fix the titled mobile robot on a structure in the water by providing a stud welding gun having a holding mechanism on the tip of a robot leg and holding a fixed part of a housing by the holding mechanism. CONSTITUTION : In case the mobile robot is fixed on the structure 23 in the water, the mobile robot leg 2 is operated to press a studding device 10 for welding against a desired place of the structure 23 in the water. Next, the welding in the water is started according to the sequence of the ordinary arc stud welding and an arc is generated between a base end weld zone 12 of a stud member 11 and the structure 23. Then, when both are stuck fast to each other at a proper temperature, the stud member 11 is stud-welded to the structure 23 and the housing 16 is fixed on the structure 23 by a flange 13 of the stud member 11. Since the robot holds the housing 16 by the holding mechanism 6 of the stud welding gun 3 fitted to the tip of the leg 2, the mobile robot is fixed strongly and stably on the structure 23 via the	AGENCY OF IND SCIENCE TECHNOL	JP6206137 6	1987/3/18

370	FORMATION OF RESIST PATTERN	PURPOSE : To form a resist pattern with a simple stage by coating an intermediate layer which prevents property deterioration between an upper layer resist and lower layer resist and can be developed together with the upper layer resist in the lower layer resist. CONSTITUTION : A PMMA which is a deep UV resist is coated as the lower layer resist 2 on a substrate 1 and the intermediate layer 11 which prevents the property deterioration between the upper layer resist 3 and the lower layer resist 2 and can be developed together with the upper layer resist 3 is coated thereon. A UV resist which is the upper layer resist 3 is then coated. AUV resist which is the upper layer resist 3 is exposed and developed, by which said resist is patterned. The intermediate layer 11 is also stripped at the same instant. The lower layer resist 2 is then exposed with the upper layer resist 3 as a mask. The upper layer resist 3 is removed and at the same time, the intermediate layer 11 is removed as well; finally the lower layer resist 2 is etched.	TOKYO ELECTRON LTD	JP61008613	1986/1/17
371	ROBOT SYSTEM WITH CABLE FOR CONTROLLING UNDERWATER TRAVELING BODY	PURPOSE : To save labor in the operation of the whole system by providing an operation control devicefor automatically taking up and unwinding a cable on the basis of the information of an underwater traveling body and a winch. CONSTITUTION : A cable 2 is connected to an end of an underwater traveling body 1 to transmit the position measuring information calculated by an echo sounding machine 5 and supply power from a power supply 6 to the underwater traveling body 1. Further, the information of a winch 3 is sent to an operation control device 4 to rotate the winch 3 with the tension of the cable 2 through a hydraulic circuit and controllably change over the winch to either the free slack mode in which the cable 2 is unwound by the rotation of the winch 3 or the power operated mode in which the cable 2 is taken up and unwound by utilizing the power of hydraulic motor to rotatably drive the winch 4. As a result, the slack of the capable 2 and generation of excessive tension on the winch 3 can be controllably prevented automatically to save substantially labor of the operation of the	JAPAN TECH RES DEV INST	JP60197784	1985/9/9

372	SUBMARINE ROBOT	PURPOSE : To obtain omnidirectional movement through a small number of thrusters easy to handle by pivotally connecting at least a pair of right and left nozzle cylinders to a conduit for pressurized water provided in a robot body and providing the nozzle cylinders with blowout ports formed in the direction crossing the cylinder axis. CONSTITUTION : When blowout ports of nozzle cylinders 11 provided on both sides of a submarine robot R are directed rearward, the discharge of jet J causes the submarine robot R to move forward, on the contrary, when the nozzle cylinder 11 are directed forward, the discharge of jet J causes the submarine robot R to move rearward. When the blowdown port of the left nozzle cylinder 11 in the drawing is directed upward and the right nozzle cylinder 11 is directed downward, the discharge of jet J causes the submarine robot R to be inclined to the left. When the blowout port of the right nozzle cylinder 11 is directed rearward and the left nozzle cylinder 11 is directed forward, the discharge of jet J causes the submarine robot R to rotate horizontally in the right direction. In this way, the discharge of jet J with the nozzle cylinders 11 pivotted to desired angles allows three-dimensional movement of the submarine robot R, each nozzle cylinder having the function of a plurality of thrusters so as to reduce the number of	AGENCY IND SCIENCE TECHN	JP60165831	1985/7/29

373	POSTURE HOLDING CONTROLLER FOR UNDERWATER ROBOT	PURPOSE : To secure the straight drive of an underwater robot within a pipeline with no meandering movement by controlling a driving device so that the deviation is equal to zero between the rolling angle of the robot main body detected by a sloping angle detector and a set rolling angle. CONSTITUTION : An underwater robot main body A moves up toward the side part of the inner wall of a pipeline which rises up with a curve when the driving direction of the robot has the deviation. Thus the rolling angle of the main body A is gradually increased. When the deviation is produced between the rolling angle detected by a sloping angle detector 11 and that set by a rolling angle setter 27, an operating signal (a) having a certain value is delivered from an arithmetic part 22. An operating control part 23 controls the driving devices 3 and 4 so that the value of the signal (a) is equal to zero. Thus, the driving direction of the robot main body A is corrected. As a result, the robot A moves straight with its positure kept in response to the rolling angle (usually set at zero) set at a rolling angle setting part 21.	MITSUBISHI HEAVY IND LTD	JP60156929	1985/7/18
374	UNDERWATER INSPECTION ROBOT	PURPOSE : To make it possible to inspect underwater facilities or equipments accessible from a dam or a conduit on the ground, by operating an underwater inspection robot according to an operation command from an operator in a ground control station. CONSTITUTION : An underwater inspection robot is constituted of a diving device 10, an access device 50, a cable 80 and a ground control station 100. The diving device 10 is designed to carry out inspection work in the water at a dam or a conduit. The access device 50 is designed to run on the ground with the diving device 10 mounting thereon, and elevate or lower the diving device 10 from a desired position into the water. The cable 80 is a cable for suspending the diving device 10 and for controlling the operation of the diving device 10 and transmitting information. The ground control station 100 serves to control the diving device 10 on the ground and monitor inspection information from the device 10.	MITSUI OCEAN DEV ENG; TOKYO ELECTRIC POWER CO	JP60037525	1985/2/28

375	UNDERWATER ROBOT	PURPOSE : To improve propulsion efficiency and cut cost by operating a plurality of thrustors in the vertical, transverse, and longitudinal directions. CONSTITUTION : A pressureproof shell 11 is constituted so that the center of gravity and the center of buoyancy are nearly at the center O, and supporting shaft 15 are installed onto the both sides so that the supposed axis center CL passes through the center O. When, with such constitution, a magnet brake 16 is released, and a thrustor 12A and the thrustors 12B and 12C are revolved in the reverse direction, the pressureproof shell 11 turns in the direction of arrow B or B' around the supposed axis center CL. When each thrustor 12A, 12B, 12C is positioned in the vertical direction, the magnet brake 6 is operated and fixed, and the thrustors 12A, 12B, and 12C can be used for the transfer in the vertical direction.	MITSUI ENG SHIPBUILD CO LTD	JP59268479	1984/12/21
376	FIXING APPARATUS FOR UNDERWATER WORKING ROBOT	PURPOSE : To fix an article having a variety of shapes such as flat surface, curved surface, thin rod shape, etc. by installing an adsorbing pad made of rubber, etc. through a universal joint at the top edge of an arm freely opened and closed. CONSTITUTION : An adsorbing pad 6 made of rubber, sponge not having air permeability, etc. is installed through a universal joint 5 at the top edge of an arm 7 freely opened and closed. The inside of the adsorbing pad 6 is connected to a vacuum pump, and adsorption is carried-out. Each adsorbing pad 6 can simply adsorb a flat surface, and a curved surface along each objective surface. Further, this apparatus can engage a rod-shaped body by utilizing an arm 7 freely opened and closed, and when said rod-shaped body has a flat surface, the adsorbing pad 6 can fix and engage said rod-shaped	AGENCY IND SCIENCE TECHN	JP59238614	1984/11/14

377	BUOYANCY ADJUSTMENT OF UNDER-WATER ROBOT	PURPOSE : To adjust buoyance of an under-water robot by operating the opening and closing of valves installed on a ballast tank at multistage and introduction of a gas to the ballast tank through remote control. CONSTITUTION : When a valve 4B is opened by remote control, seawater enters a ballast tank 3 from an opening 5, and a gas is discharged from the valve 4B. Simultaneously a gas generator 2 is operated by remote control at this time to introduce gases against compression, and a slightly excessive gas is discharged from the valve 4B, whereby a water level in the tank is securely located at the level of the valve 4B, and gas pressure in the tank 3 balances with depth of water. Accordingly the under-water robot 1 always keeps diving. When the robot 1 reaches a target water depth, the valve 4B is closed and a valve 4A is opened. Then the water level in the ballast tank is located at the position in the valve 4A, which balances with the gas pressure. Since the location of the valve 4A is provided at the place where weight of the under- water robot balances with buoyance, the robot 1 holds the	MITSUI SHIPBUILDING ENG	JP59212713	1984/10/12
378	UNDER-WATER WORKING ROBOT	PURPOSE : To prevent thermal distortion due to welding by jointing a pressure- proof vessel to a linkage member through a seal member by bolting. CONSTITUTION : The linkage member 4 is tightened with a bolt 4 through the front direction pressure-proof vessel 2, the rear direction pressure-proof vessel 3 and the seal member 13 so as to be jointed. At both ends of the linkage member 4 circular projections 15 are fitted, which facilitate positioning at the time of bolting said vessels 2 and 3. Moreover, an I/O port 15 for taking in and out a cable which transmits information from a mother ship is installed on the linkage member 4, and therefore the production of a pressure-proof vessel is facilitated and the reduction of its strength can be prevented.	MITSUI ENG SHIPBUILD CO LTD	JP59212714	1984/10/12

379	TRIM ADJUSTING APPARATUS FOR UNDERWATER ROBOT	PURPOSE : To spread the photographing range of a TV camera by providing the superposition which can be shifted in the longitudinal direction by a motor into a pressureproof container of a robot, thus always securing the coincidence of the direction of the TV camera and the direction of light by a simple mechanism. CONSTITUTION : When a motor 7 is revolved normally and reversely by the instruction transmitted from on a vessel, and weight 3 is shifted in the longitudinal direction in s pressureproof container 10, the container 10 is directed downward when the weight 3 is shifted to the front part, and the container 10 is kept horizontally when the weight 3 is positioned at the center part, and the container 10 is directed upward when the weight 3 is shifted to the rear part. Since the container 10 can be tilted forward and backward only by shifting the weight 3, a tilt mechanism can be removed, and it is only enough to fix a TV camera in coincidence with the direction of optical axis of a light 9 installed onto an underwater robot R. Therefore, the TV camera 1 does not shift from within the irradiation range of the light 9, and the always distinct image having the superior lighting can be sent to observers on the sea.	MITSUI SHIPBUILDING ENG	JP59157297	1984/7/30
380	SUBMARINE ROBOT	PURPOSE : To enable the captioned robot to move with six degrees of freedom by means of two thrustors and miniaturize and lighten a pressure container by housing a motor for rotating mechanism in said pressure container and rotating gears on the outside through a magnet coupling to move said thrustors. CONSTITUTION : A submarine robot 1 consists of a container 2 housing a TV camera and a frame which is rotatably fixed to the horizontal points A, B on the right and left of this container 2. A pair of thrustors 6, 6' are provided on the frame 5 (NCS) horizontally and symmetrically with respect to the frame 5. The pair of thrustors 6, 6', together with frames 3W5, can be rotated relatively to the container 2 with a straight line A-B as the axis of rotation, by rotating gears outside the container 2 by means of a motor in it through a magnet coupling. They can also be rotated, together with the frame 5, through the frame 4 with a straight line N-S as the axis of rotation. Accordingly, the submarine robot can make movements with six degrees of freedom while the pressure container can be made smaller and lighter.	MITSUI SHIPBUILDING ENG	JP59151325	1984/7/23

381	UNDERWATER WORK ROBOT	PURPOSE : To enable operation by an underwater work robot in a narrow space by providing a head part having an object sensing means and a manipulator, which is installed on the end of a neck part which is extendable in the longitudinal direction of said underwater work robot body. CONSTITUTION : An underwater work robot consists of a body 1, a head part 2 mounted on the front part of the body 1, a variable vector propeller 3 as a propelling device, two front legs 4 and a rear leg 7, and two manipulators 9 provided on the head part 2. A neck part 18 supporting the head part 2 is telescopically extendable in the axial direction. A manipulator 9 has fingers with joints and a pressure sensor is provided on the tip of the finger to detect pressure when an object is grapsed and to control the movement of the finger. The neck part 18 can be retracted to bring the head part close to the body 1, enabling underwater TV cameras 11, 15 and the manipulators 9 to be housed in the body 1 and the head part 2 respectively.	KOGYO GIJUTSUIN	JP59136626	1984/7/3
382	UNDERWATER ROBOT	PURPOSE : To enhance the control ability of an underwater robot with a simple arrangement, by fixing a pair of thrusters to a horizontal arm symmetrical with a semicircular vertical arm along a spherical container, and by moving the thrusters with the use of a magnet in the container. CONSTITUTION : An underwater robot 1 for taking photograph with the use of a TV camera 6 rotates a vertical arm 3 along a spherical container 2 by means of a magnet 13 attached to a guide 12 in accordance with instructions from a controller so that a horizontal arm 4 is moved on the vertical arm 3 along the spherical surface in association with the movement of the magnet 13 between the positions N, S. Further, the combination of motions of both arms 3, 4 allows thrusters 5 which are secured to the horizontal arm 4 symmetrical with the vertical arm 4 to move freely left and right, and up and down, thereby it is possible to move the robot 1. Thus, with the use of only two thrusters, the robot may be moved around left and right, and up and down with a small resistance, and therefore, it is possible to enhance	MITSUI ZOSEN KK	JP59133076	1984/6/29

383	METHOD AND APPARATUS FOR DRIVING CARRIER VEHICLE LOADING	The present Publication SUMMARY data for electronic application before the application data recorded on the oxygen in air.	KAIYOU KIKI KK	JP59051718	1984/3/16
384	UNDERWATER WORKING ROBOT	Since this publication is application data before electronic filing, no summary data is recorded.	NIPPON KOKAN KK	JP58245129	1983/12/28
385	UNDERWATER ROBOT	The present Publication SUMMARY data for electronic application before the application data recorded on the oxygen in air.	MITSUBISHI HEAVY IND LTD; SEIRYO	JP58225387	1983/12/1
386	Underwater cleaning robot	The present Publication SUMMARY data for electronic application before the application data recorded on the oxygen in air.	海洋機器株式会社	JP58173704U	1983/11/11
387	Underwater cleaning robot	The present Publication SUMMARY data for electronic application before the application data recorded on the oxygen in air.	海洋機器株式会社	JP58173705U	1983/11/11
388	Underwater cleaning robot	Since this publication is application data before electronic filing, no summary data is recorded.	海洋機器株式会社	JP58067790U	1983/5/9
389	GUIDANCE DEVICE FOR UNDERWATER SAILING BODY	PURPOSE : To guide an underwater sailing body to a target easily and securely by enabling the underwater sailing body to approach an optional target, such as a pipeline, under water, by adding a guidance device and a sonar, which acquires the target, to an underwater robot system. CONSTITUTION : At the upper of an underwater sailing body 1, front and rear, and left and right hydrophone 8W11 are provided and the attitude of the hydrophones 8W11 is detected by a hydrophone detector 12. After this sailing body 1 connecting with a guidance electric wire is put under water, a search beam B for a target 17 is emitted from a sonar 16, provided to the bottom of a surface operation ship 15, within a search range (α). Pulses from this sonar 16 are received by the hydroph ones 8W11 and while the azimuth is detected by an azimuth gauge, the body 1 sails automatically toward the target 17 indicated by a command. Over a look at the sailing body 1 displayed on the PPI of the sonar 16 provided of the operation ship 15, an adjustment of the speed and fine adjustments of the azimuth and approaching angle are made to make the sailing body 1 approach the target 17, guiding it to	MITSUBISHI HEAVY IND LTD	JP55074596	1980/6/3
390	UNDERWATER OBSERVING DEVICE	PURPOSE : To easily observe underwater wall surface by an underwater robot having an underwater observing sensor, means for adhering to underwater wall, and means for moving on underwater wall surface.	OKI ELECTRIC IND CO LTD	JP51097213	1976/8/14

391	RISING AND SINKING APPARATUS	PURPOSE : To effect soft landing of a rising and sinking apparatus for an underwater working machine or robot, which is equipped with a floating tank, such that it may not receive any shock.	HITACHI LTD	JP50095047	1975/8/6
392		1475373 Cathode-ray tube displays IDR Inc 21 Aug 1974 [17 Jan 1974] 36822/74 Heading H4T In a video data communication system a transmitter transmits character data together with control information such as synchronizing control and address data on a character-row by character-rov basis, the character data being up-dated in real time, to a plurality of terminals each of which, by keyboard means, selects and stores a desired frame ("page") of character data (i.e. a plurality of rows of characters) for continuous display on a conventional television system display, such display being up-dated in real time. Each row of data (control, &c., and character), termed a "pseudo video scan line" comprises a self-contained packet of digital information which is transmitted in the time of one conventional television line, the information being sufficient to provide for the display of thirty-two characters in each row, sixteen such rows forming one "page". The information in each "pseudo video scan line" controls the display of between eleven and thirteen actual television scan lines on which the characters are produced in a 7 x 9 dot matrix form. Also, in addition to synchronizing, control and address data, error check information and "permission' information, i.e. information allowing the terminals to receive one or more selected groups of information, is included. The character information may be of any conventional type, e.g. news, weather, stock market, advertizing &c. and an override condition is included which allows emergency information, e.g. a civil defence warning, to be displayed at all terminals. The displays may be in colour	KAO SOAP CO	JP50007675	1975/1/17