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(54) **PADDLE-INTEGRATED COMMUNICATION DEVICE**

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(57) **ABSTRACT**

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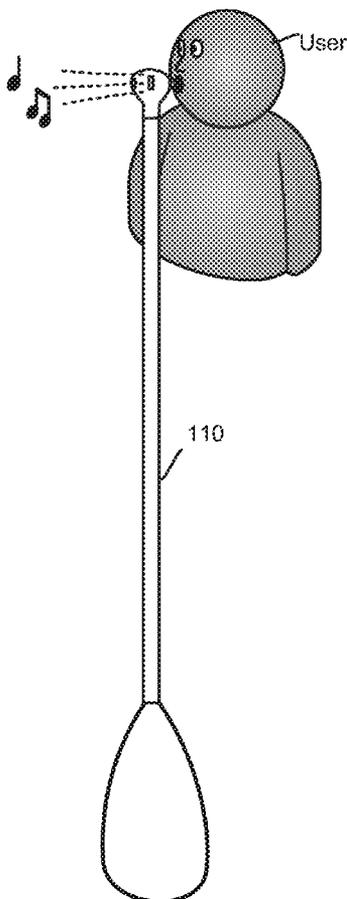
A paddle apparatus for use by a user, of a vessel, to propel the vessel through water may include a shaft having a first end and a second end that is opposite of the first end; a first blade that is attached to the first end; a handle or a second blade that is attached to the second end; and an electronic communication device that is integrated within or attached to the handle, the shaft, or the second blade. The electronic communication device may enable the user to communicate with another user or authorities via a network or over the air.

(22) Filed: **Jul. 30, 2014**

Related U.S. Application Data

(60) Provisional application No. 61/859,972, filed on Jul. 30, 2013.

200 →



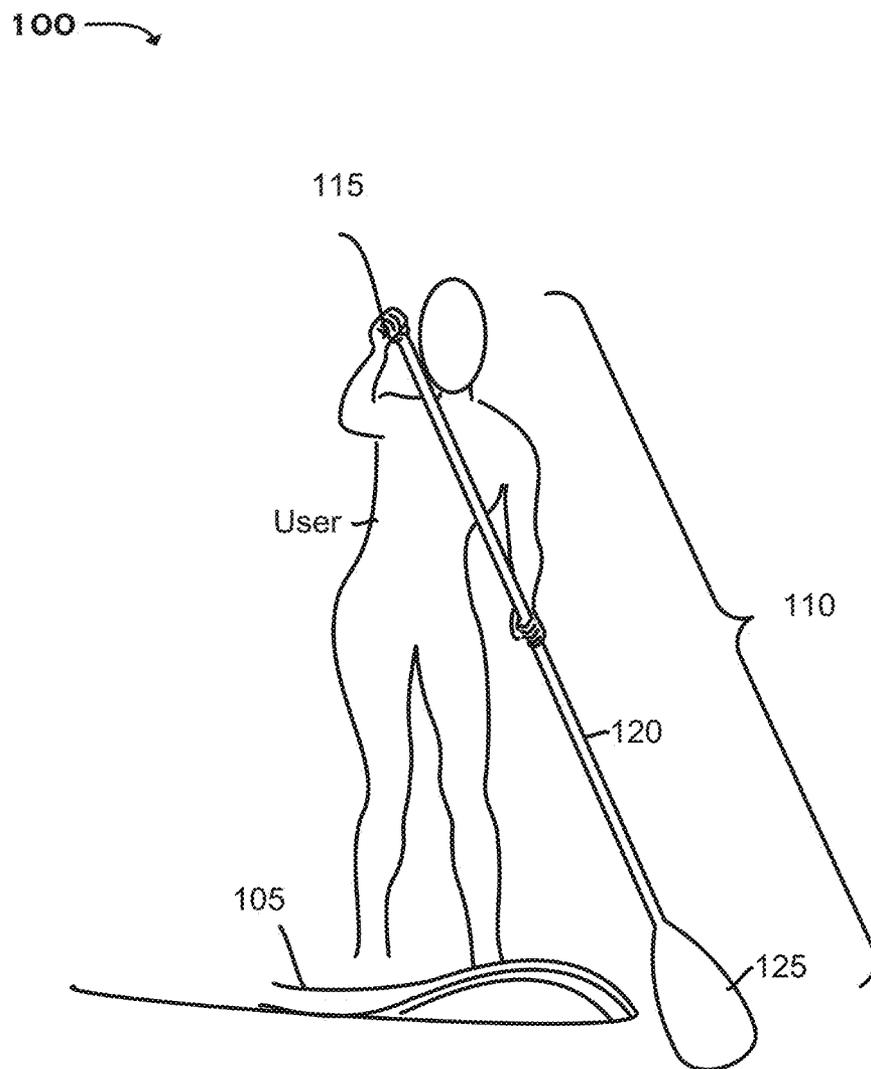


FIG. 1

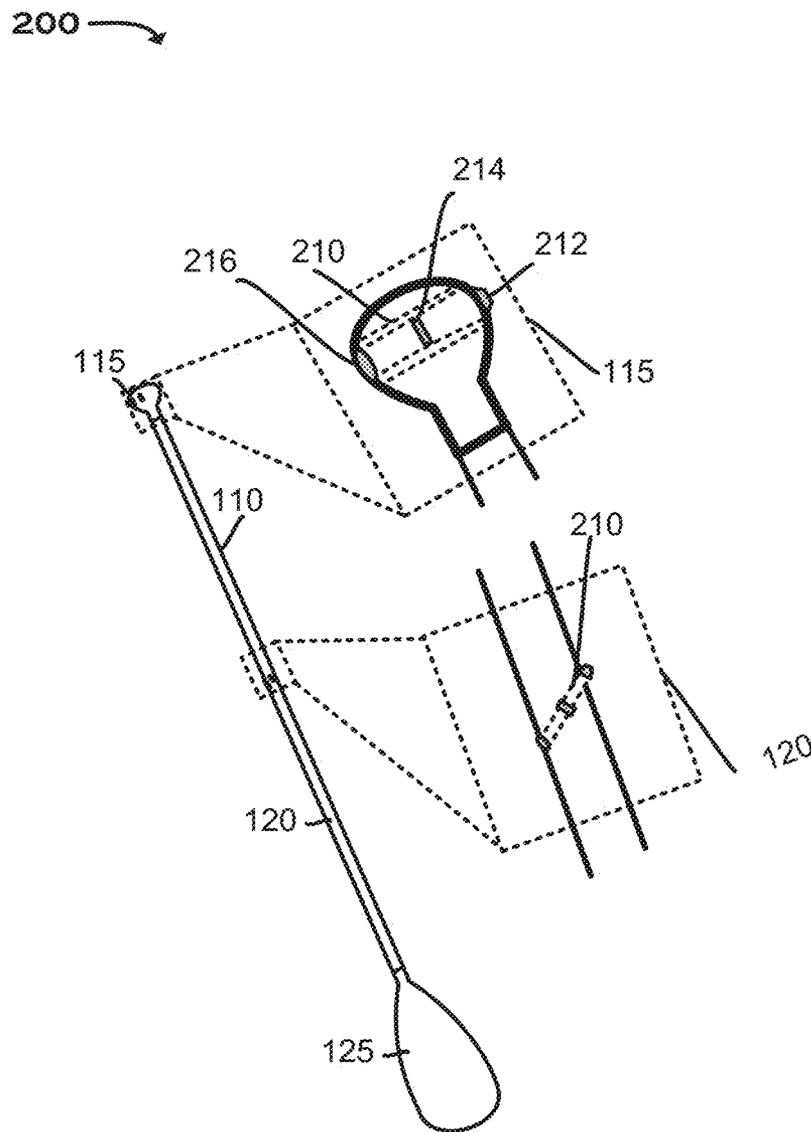


FIG. 2A

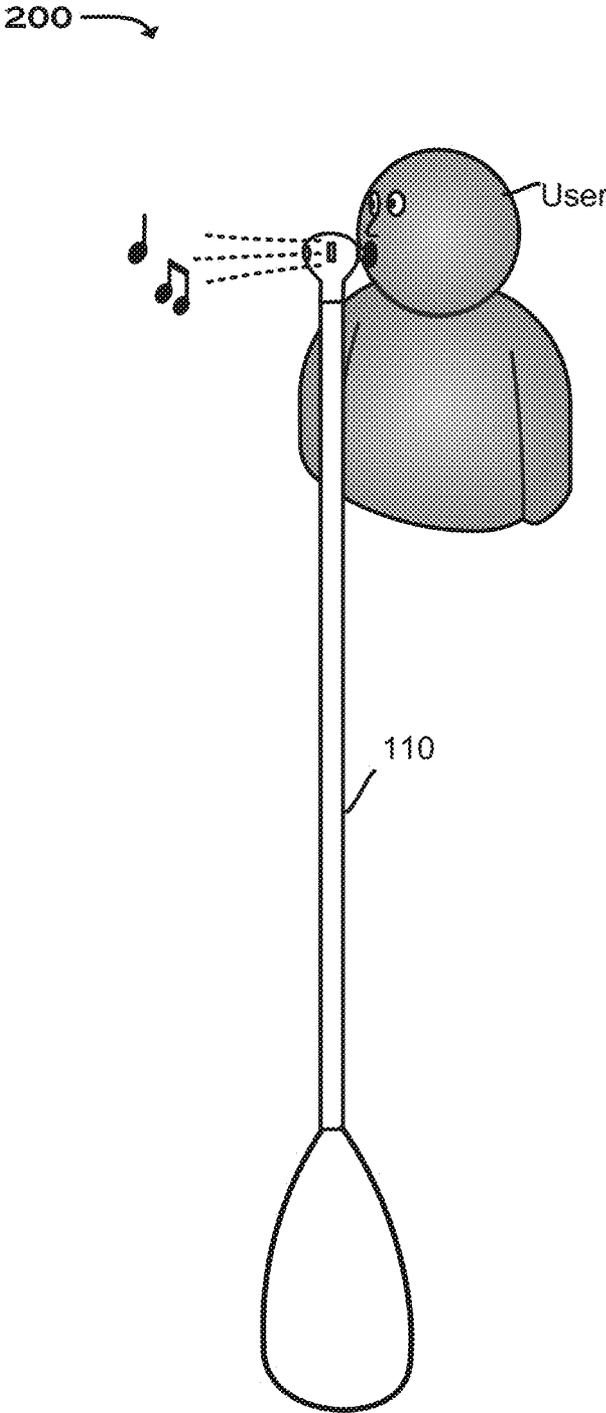


FIG. 2B

300 ↘

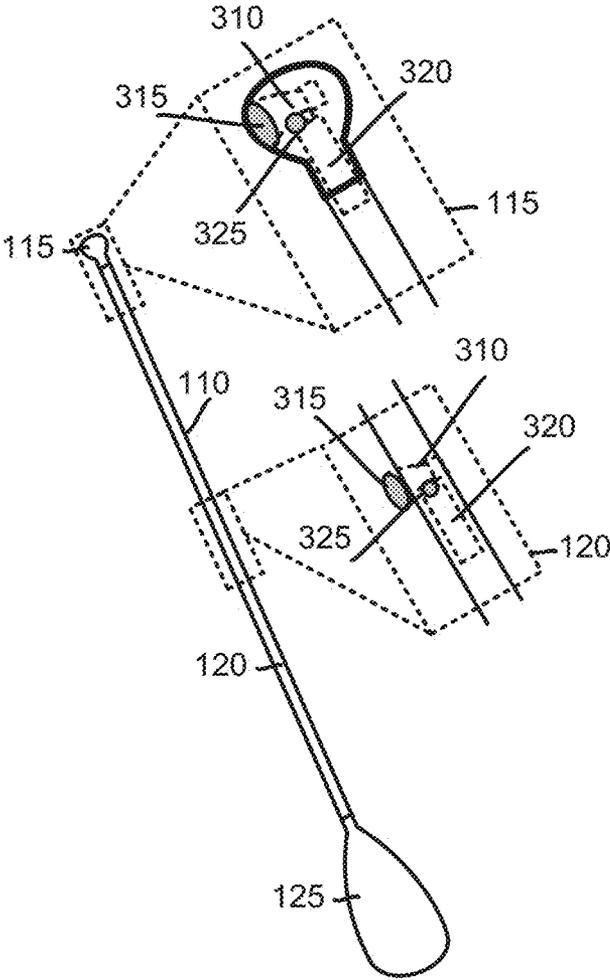


FIG. 3A

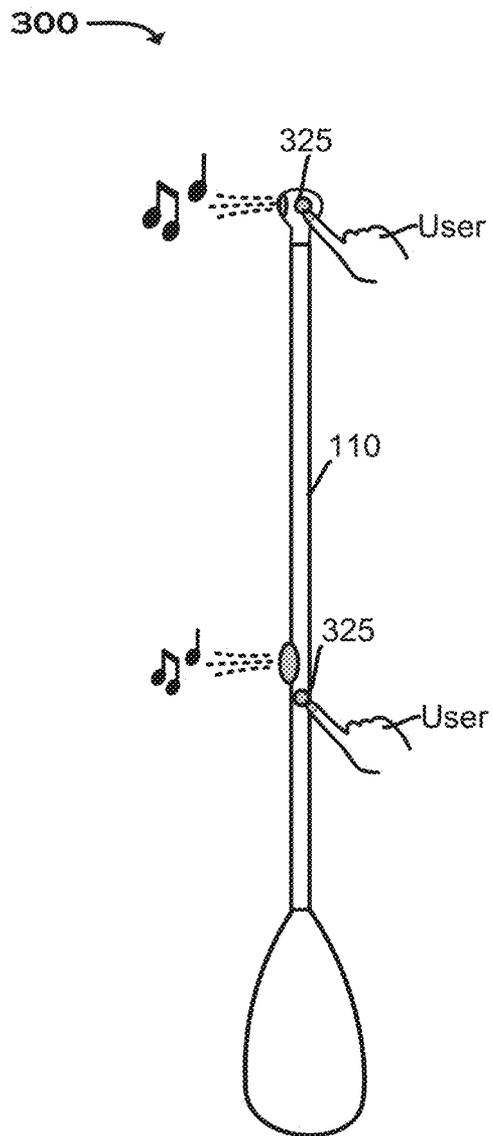


FIG. 3B

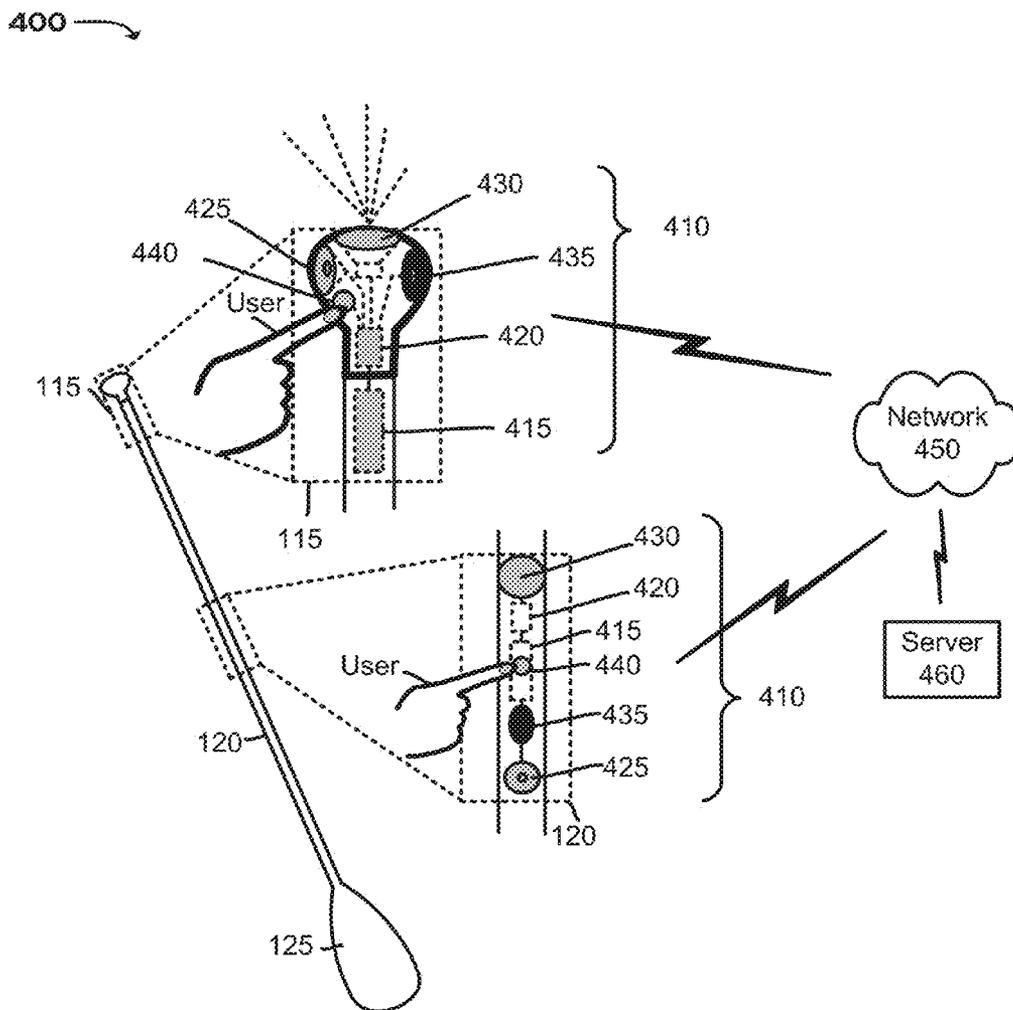


FIG. 4

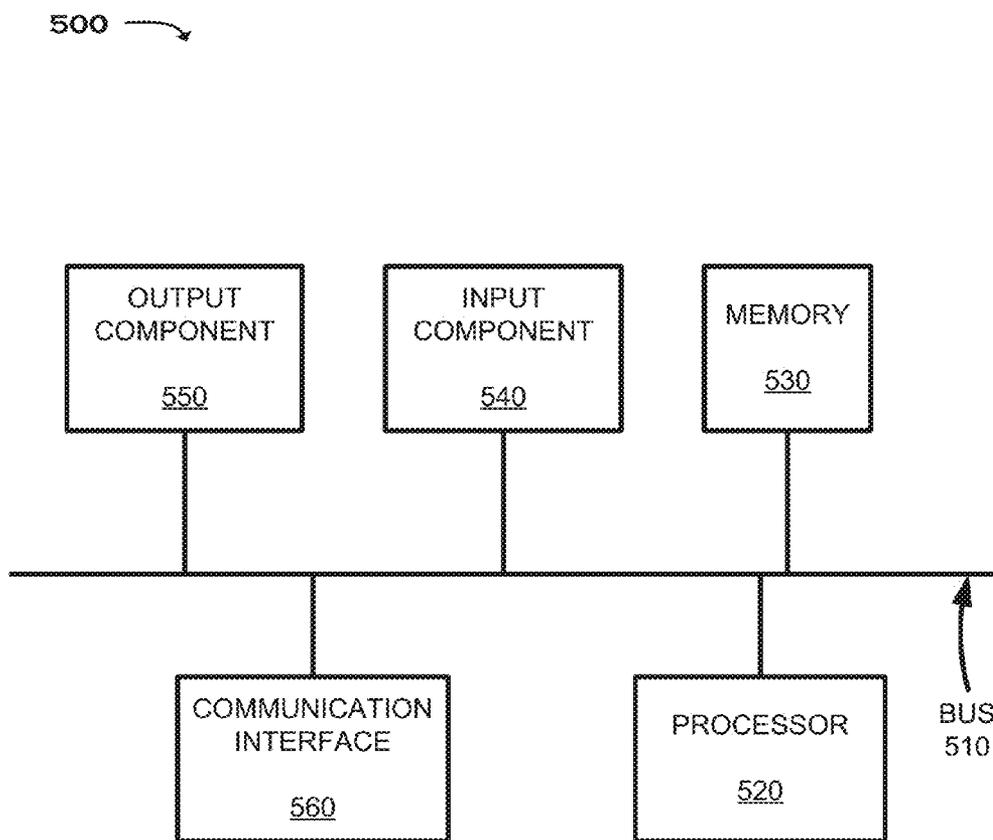


FIG. 5

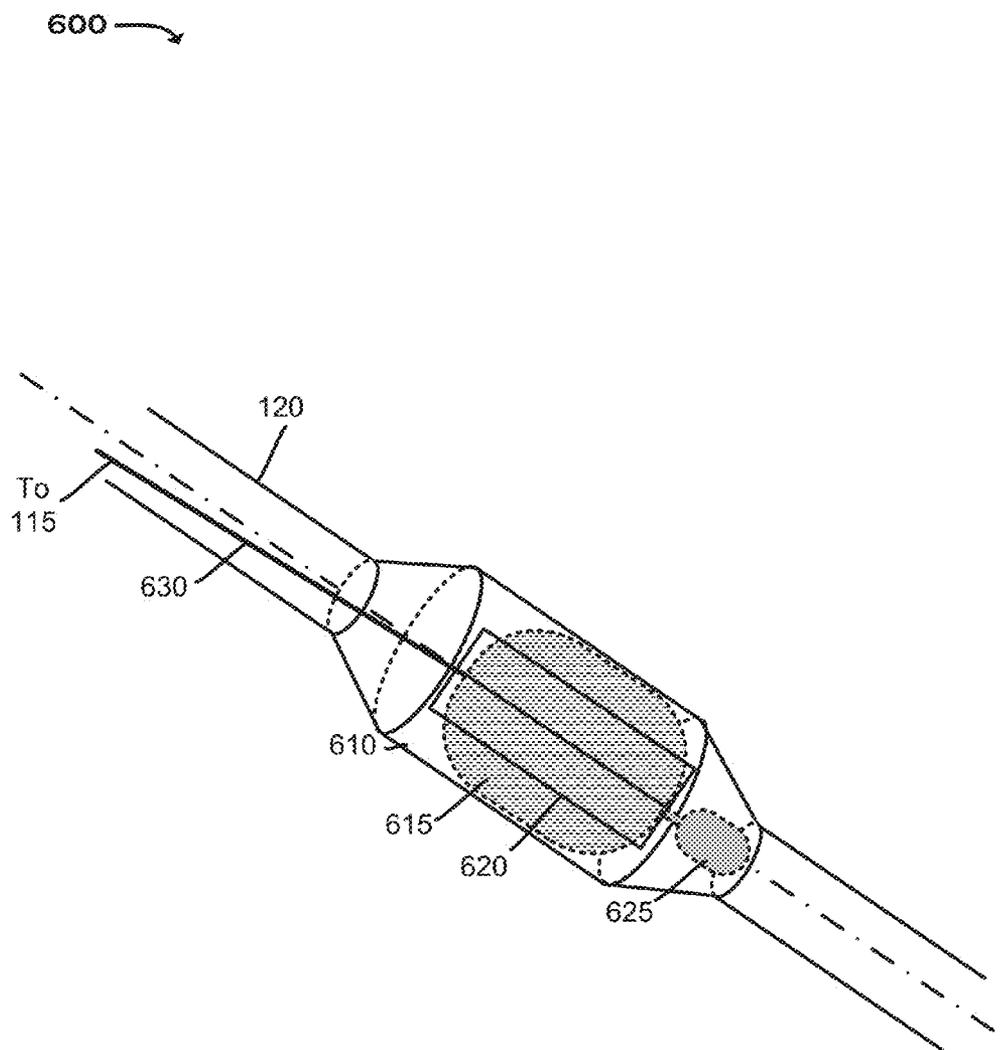


FIG. 6

PADDLE-INTEGRATED COMMUNICATION DEVICE

REFERENCE

[0001] This application claims priority to U.S. Provisional Patent Application No. 61/859,972, filed Jul. 30, 2013, the entire contents of the provisional application being incorporated herein by reference.

BACKGROUND

[0002] Water sports that use manual means of propulsion (hereinafter “manual water sports” or “water sports”) such as kayaking, canoeing, rowing (e.g., crew), standup paddle (“SUP”) boarding and SUP surfing are growing in popularity. These water sports rely on manual propulsion where the participant propels a vessel (e.g., kayaks, canoes, boats, crew boats, surfboards, standup boards, body boards, etc.) through the water using a paddle, an oar, a push pole, etc. Different types of paddles, oars and/or push poles can be used depending on the type of water sport. For example, a double-blade paddle or oar can be used in kayaking to enable the participant to paddle and steer using one or both of the blades while sitting in the kayak. A single-blade paddle or oar is usually used for canoeing to enable the participant to paddle and steer while kneeling or sitting in the canoe. A push pole can be used to propel a boat, row boat, or some other vessel through particularly shallow water to minimize splashing caused by conventional single or double blade paddles or oars. For SUP boarding and/or SUP surfing, a single-blade paddle that is longer than that used for canoeing, can be used to enable the participant to paddle and steer while standing up on the board.

[0003] Some of these water sports are often performed in navigable waters that are used by larger and faster powered vessels such as small power boats, sail boats, yachts, trawlers, barges or ships. These navigable waters are governed by applicable federal, state, and local laws and regulations and participants engaged in such water sports may not be exempt from such laws. For example, such laws often require that a vessel traveling on navigable waters include certain safety devices including without limitation a communication device, such as, for example, a sound device (e.g., a whistle, horn, speaker, etc.), a visual device (e.g., navigation lights, anchor lights, flares, etc.), or other devices to warn other vessels or law enforcement of their presence and/or location on navigable waters. Unfortunately, because of the limited payload that can be carried by participants or vessels used in connection with these water sports, carrying such safety devices can be difficult, expensive, heavy and/or cumbersome. Additionally, participants may be exposed to elevated levels of risk, relative to those faced by power boaters, because of the slow speed of travel and limited maneuverability of the vessel and the participant’s exposure to weather elements, sea conditions, fatigue due to physical exertion, etc. This elevated risk may be further exacerbated when such limited payload precludes carrying other safety equipment or devices such as floatation devices, electronic or wireless communication devices, first aid kits, etc.

SUMMARY

[0004] According to one implementation, described herein, a paddle apparatus may be used by a user, of a vessel, to propel the vessel through water. The paddle apparatus may include a shaft having a first end and a second end that is opposite of the

first end; a blade that is attached to the first end; a handle that is attached to the second end; and a communication device. The communication device may be included within the handle or the shaft.

[0005] According to another implementation, described herein, a paddle apparatus may be used by a user, of a vessel, to propel the vessel through water. The paddle apparatus may include a shaft having a first end and a second end that is opposite of the first end; a first blade that is attached to the first end; a handle or a second blade that is attached to the second end; and an electronic communication device that is integrated within or attached to the handle, the shaft, or the second blade. The electronic communication device may enable the user to communicate with another user or authorities via a network or over the air.

[0006] According to a further implementation, described herein, a manual marine propulsion apparatus may include a shaft; a handle that is attached to one end of the shaft; and one or more communication devices that are included within, or are attached to, the shaft, the handle, or a combination of the shaft and the handle.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a diagram of an example environment 100 in which the technologies and/or techniques, described herein, may be implemented;

[0008] FIGS. 2A and 2B are diagrams of an example that may include a type of communication device that corresponds to a whistle with which a user can make a sound;

[0009] FIGS. 3A and 3B are diagrams of example paddles that may include a different type of communication device that corresponds to an air horn with which a user can make a sound;

[0010] FIG. 4 is a diagram of an example paddle that may include an electronic communication device;

[0011] FIG. 5 is a diagram of one or more components of the communication device of FIG. 4; and

[0012] FIG. 6 is a diagram of an example floatation system that is store in or deployed from the paddle of FIG. 1.

DETAILED DESCRIPTION

[0013] The systems, methods, apparatus, technologies, and/or techniques (hereinafter referred to as the “technologies and/or techniques”), described herein, may enable one or more communication devices to be carried by a user participating in a water sport associated with manual means of propulsion of a marine vessel such as a kayak, canoe, boat, stand up paddle (SUP) board, SUP surf board, etc. (hereinafter referred to as a “vessel”). The technologies and/or techniques may enable the communication devices to be attached to, stored or installed within, or integrated within a manual propulsion apparatus such as, for example, a single-blade paddle, an oar, a double-blade paddle, a push pole, a rudder, etc. that is used by the user to manually propel the vessel through the water (hereinafter collectively referred to as a “paddle”).

[0014] The technologies and/or techniques may enable a communication device to be attached to, stored or installed within, or integrated with any portion of a paddle (e.g., a blade, handle, and/or shaft) to enable a user to use the communication device to comply with applicable laws associated with the body of water on which the user is engaging in a water sport. The communication device may include a

mechanical sound device, such as a whistle, a horn, an air horn (e.g., that uses a compressed air or other gas), or some other mechanical sound device that can generate a sound to alert other vessels or for some other purpose. Additionally, or alternatively, the communication device may include an electronic communication device such as, for example, an electronic sound device (e.g., that includes a speaker, a loud speaker, an electric horn, power supply, a device to generate a sound signal, etc.).

[0015] The technologies and/or techniques may enable an electronic communication device to be attached to, stored or installed within, or integrated with any portion or component of a paddle (e.g., a blade, handle, and/or shaft) to enable a user to use the electronic communication device to communicate with another communication device via a network or over the air. In one example, the electronic communication device may include a one-way or two-way radio that can communicate with another radio (e.g., a VHF marine radio) such as that used by another user, the United States Coast Guard, law enforcement, etc.). Additionally, or alternatively, the communication device may include a light source that can output a light signal for navigation during poor visibility, a distress signal (e.g., an SOS signal, etc.), etc. Additionally, or alternatively, the communication device may include a global positioning system (GPS) that can provide obtain information that identifies the location of the user that is using the paddle. Additionally, or alternatively, the communication device may include a beacon (e.g., an emergency position indicating radio beacon (EPIRB) or some other type of beacon) that can alert authorities (e.g., the Coast Guard, law enforcement, etc.) in the event of distress. Additionally, or alternatively, the communication device may include a wireless mobile device such a cellular phone, a smart phone, a personal digital assistant (PDA), etc. that enables the user to make a call to another mobile device or landline telephone.

[0016] The technologies and/or techniques may enable a floatation device to be attached to, stored or installed within, or integrated with any portion or component of a paddle (e.g., a blade, handle, and/or shaft) to enable a user to remain afloat in the event of distress or fatigue. In one example, the paddle may include a storage compartment in which the floatation device can be stored or installed until such time that it is deployed. The technologies and/or techniques may enable the communication device to transmit a distress signal in the event that the floatation device is deployed. Additionally, or alternatively, the floatation device may include a mechanism that enables the floatation device to be inflated by the user or automatically in the event that distress is detected.

[0017] The technologies and/or techniques may enable a distress detection and alerting device to be attached to, stored or installed within, or integrated with any portion or component of a paddle (e.g., a blade, handle, and/or shaft) to enable a distress condition to be detected and/or an alert signal to be generated or outputted in the event of the detection of a distress condition. In one example, the distress detection device may detect that the paddle is in a submerged state for a period of time that is greater than a first threshold and may output a distress signal based on the detection of the submerged state. Additionally, or alternatively, the distress detection device may detect a first rate of motion (e.g., velocity, acceleration, angular momentum, etc.) that is less than a second threshold (e.g., when the paddle is submerged and/or has remained relatively motionless for a period of time) or a second rate of motion that is greater than a third threshold that

is greater than the second threshold (e.g., when the paddle has experienced violent movement) and may output a distress signal based on the detection of the first or second rate of motion. The distress signal may include a sound, a light, a radio signal, etc. Additionally, or alternatively, the distress detection and alerting device may output a first signal that is a warning signal to, for example, notify the user that the paddle should be removed from the water, that the paddle may be floating away, that the power switch should be turned to an off position (e.g., if distress condition is not present, if the user no longer intends to use the paddle, etc.).

[0018] FIG. 1 is a diagram of an example environment **100** in which the technologies and/or techniques, described herein, may be implemented. As shown in FIG. 1, a user engaging in a water sport, such as SUP boarding or surfing may ride on a floating vessel **105** and may manually propel the user and the surface of the water using a paddle **110**. Paddle **110** may include a handle **115**, a shaft **120** and a blade **125**.

[0019] The number of components, illustrated in FIG. 1, is provided for explanatory purposes only. In practice, there may be additional components, fewer components, different components, or differently arranged components than illustrated in FIG. 1. For example, while paddle **110** is described in FIG. 1 as including one blade **125**, additionally, or alternatively, paddle **110** may include two or more blades **125**. In this example, paddle **110** may include a first blade **125** attached to a first end of shaft **120** and a second, different blade **125** attached to a second, opposite end of shaft **120**. Additionally, or alternatively, in the case in which paddle **110** corresponds to a push pole, paddle **110** may include shaft **120** and, possibly, handle **115**, but may not include any blade **125**. Also, in some implementations, one or more of the components of paddle **110** may perform one or more functions described as being performed by another one or more of the components of paddle **110**.

[0020] Vessel **105** may include a vessel made of a material that is sufficiently buoyant and/or rigid to enable the user to float on (e.g., in a lying, sitting, standing, kneeling, and/or some other position) and/or propel the user across a body of water. For example, vessel **105** may correspond to a kayak, surfboard, wind surf board, canoe, boat, SUP board, SUP surf board, body board, crew boat, power boat, sail boat, etc.

[0021] Handle **115** may include any material or structure such as metal, wood, plastic, composite, and/or ceramic that is of sufficient strength and rigidity to enable the user to grip paddle **110** for the purposes of manually propelling the user and/or vessel **105** across the surface of the water. Additionally, or alternatively, the material or structure may be of sufficient strength and rigidity to enable certain devices, components, or systems (described in detail below with respect to FIGS. 2A, 2B, 3A, 3B, and 4-6) to be attached to, integrated with, or installed within handle **115**.

[0022] Shaft **120** may include a cylindrical member made of a material or structure such as metal, plastic, wood, composite, and/or ceramic that is of sufficient strength and rigidity to enable the user to use paddle **110** for the purposes of manually propelling the user and/or vessel **105** across the surface of the water. Shaft **120** may include a first end to which handle **115** or a first blade **125** is attached and a second, opposite end to which a second blade **125** is attached. Additionally, or alternatively, shaft **120** may include a length that is adjustable depending on the type of water sport, the position of the user (e.g., sitting, standing, kneeling, etc.), or the

size or height of the user. Additionally, or alternatively, the material or structure of shaft **120** may be of sufficient strength and rigidity to enable certain devices, components, or systems (described in detail below with respect to FIGS. **2A**, **2B**, **3A**, **3B**, and **4-6**) be attached to, integrated with, or installed within shaft **120**.

[0023] Blade **125** may include any material or structure such as metal, wood, plastic, composite, and/or ceramic that is of sufficient strength and rigidity to enable the user to use paddle **110** for the purposes of manually propelling the user and/or vessel **105** across the surface of the water. For example, the user may use paddle **110** in a manner that causes blade **125** to apply a force or pressure to the water in a particular direction that enables the user and/or vessel **105** to travel in a substantially opposite direction as would be understood by a person skilled in the art. Blade **125** may also, or alternatively, correspond to a substantially planar surface as would be understood by one skilled in the art to impart a force and/or pressure to an area or volume of the water. Additionally, or alternatively, the material or structure of blade **125** may be of sufficient strength and rigidity to enable certain devices, components, or systems (described in detail below with respect to FIGS. **2A**, **2B**, **3A**, **3B**, and **4-6**) be attached to, integrated with, or installed within shaft **120**.

[0024] FIGS. **2A** and **2B** are diagrams of an example paddle **200** that may include a type of communication device that corresponds to a whistle with which a user can make a sound. Paddle **200** may include one or more whistles **210** that can be used by the user to make a whistle sound by blowing into the whistle. Whistle **210** may include an input aperture **212**, a sound mechanism **214**, and an output aperture **216**. The number of components, illustrated in FIG. **2A**, is provided for explanatory purposes only. In practice, there may be additional components, fewer components, different components, or differently arranged components than illustrated in FIG. **2A**. Alternatively, or additionally, one or more components of paddle **200** may perform one or more other tasks described as being performed by one or more other components of paddle **200**. Additionally, or alternatively, communication device **210** may be integrated within, installed in, or attached to paddle **110** alone or together with any other communication device (e.g., communication devices **310** and/or **410** of FIGS. **3A** and/or **4A**, respectively) and/or floatation system **600** (described below in with respect to FIG. **6**).

[0025] Input aperture **212** may include an aperture into which the user can blow air into whistle **210**. Sound mechanism **214** may include a channel of a particular dimension or shape through which air can flow from input aperture **212** and/or which may cause a vibration, acoustic waves, and/or sound to occur in whistle **210** at one or more resonant frequencies in the audible frequency range that can be heard by the human ear or some other frequency range (e.g., a sub-audible frequency range) that can be detected by an acoustic device. Output aperture **216** may include an aperture out of which air and/or the vibrations, acoustic waves, and/or sound exits whistle **210**. Whistle **210** may be formed by and/or integrated within a material on which handle **115** is based as shown by the dashed box labeled **115** during manufacturing without requiring a shape and/or outer mold line of handle **115** to change shape and/or may be retrofitted into handle **115** after manufacturing. Additionally, or alternatively, whistle **210** may be integrated into shaft **120** as shown by the dashed box labeled **120** during manufacturing, may be retrofitted into shaft **120** after manufacturing, and/or may be fastened and/or

mounted to shaft **120**. Additionally, or alternatively, whistle **210** may be integrated within blade **125** during manufacturing, or retrofitted or attached to blade **125** after manufacturing and before or after assembly of paddle **110**. FIG. **2B** illustrates a user blowing into whistle **210** that is integrated and/or retrofitted within handle **115** of paddle **110** causing whistle system **200** to make a whistle sound (e.g., as shown by the dashed lines and musical notes representing exiting air and sound) in a manner similar to that described above.

[0026] FIGS. **3A** and **3B** are diagrams of an example paddle **300** that may include a type of communication device that corresponds to an air horn with which a user can make a sound. Paddle **300** may include one or more communication devices **310** that can be used by the user to make a horn sound by pressing a button, pulling a trigger, etc. associated with sound system **300**. Communication device **310** may include an air horn **315**, a canister **320**, and a trigger **325**. The number of components, illustrated in FIG. **3A**, is provided for explanatory purposes only. In practice, there may be additional components, fewer components, different components, or differently arranged components than illustrated in FIG. **3A**. Alternatively, or additionally, one or more components of paddle **300** may perform one or more other tasks described as being performed by one or more other components of paddle **300**. Additionally, or alternatively, communication device **310** may be integrated within, installed in, or attached to paddle **110** alone or together with any other communication device (e.g., communication devices **210** and/or **410** of FIGS. **2A** and/or **4A**, respectively) and/or floatation system **600** (described below in with respect to FIG. **6**).

[0027] Air horn **315** may include an aperture out of which air and/or the vibrations, acoustic waves, and/or sound exits communication device **310**. Additionally, or alternatively, horn **315** may be attached to canister **320** and may include a device through which pressurized air or a gas can flow from canister **320** and/or which may cause a vibration, acoustic waves, and/or sound to occur in horn **315** at one or more resonant frequencies in the audible frequency range that can be heard by the human ear or some other frequency range (e.g., a sub-audible frequency range) that can be detected by an acoustic device. Canister **320** may include a vessel of sufficient rigidity and strength to store pressurized air or gas that can be used to cause air horn **315** to generate the vibrations, acoustic waves, or sounds. Trigger **325** may enable a user to cause the pressurized gas or air to flow from canister **320** to air horn **315** by mechanically pressing trigger **325**. Additionally, or alternatively, the user may turn, push, or pull on handle **115**, relative to shaft **120**, to cause the pressurized gas or air to flow from canister **320** to air horn **315**.

[0028] Communication device **310** may be integrated within handle **115** (as shown by the dashed box labeled **115** of FIG. **3A**) during manufacturing and/or may be retrofitted into handle **115** after manufacturing. Handle **115** may include a hollow cavity that, when removed from shaft **120**, permits communication device **310** to be inserted in handle **110**. Handle **115** may include an output aperture through which compressed air and/or gas, and/or sound are permitted to exit handle **115**. Handle **115** may include a button that, when pressed by the user, causes trigger **325** to be pulled. Additionally, or alternatively, communication device **310** may be integrated within shaft **120** (as shown by the dashed box labeled **120** of FIG. **3A**) during manufacturing, may be retrofitted into shaft **120** after manufacturing, and/or may be fastened and/or mounted to shaft **120**. Shaft **120** may include a hollow cavity

that permits communication device 310 to be inserted in shaft 120. Shaft 120 may include an output aperture through which compressed air and/or gas, and/or sound are permitted to exit shaft 120. Shaft 120 may include a button that, when pressed by the user, causes trigger 325 to be pulled. Additionally, or alternatively, communication device 310 may be integrated within blade 125 during manufacturing, or retrofitted or attached to blade 125 after manufacturing and before or after assembly of paddle 300. Blade 125 may include a hollow cavity that, when removed from shaft 120, permits communication device 310 to be inserted in blade 125. Blade 125 may include an output aperture through which compressed air and/or gas, and/or sound are permitted to exit blade 125. Blade 125 may include a button that, when pressed by the user, causes trigger 325 to be pulled.

[0029] Communication device 310 may also, or alternatively, include a conventional air horn (e.g., a handheld air horn with a squeezable ball, baffle, etc.; a pump air horn; etc.) or an air horn adapted for the integration into paddle 300. Additionally, or alternatively, any communication device may be integrated into paddle 300, such as an electrical communication device 310 (e.g., with one or more speakers, megaphones, or the like) that relies on battery power or an electrical generator (e.g., a manually cranked generator, etc.). FIG. 3B illustrates a user pressing a button on handle 115 and/or shaft 120 to cause trigger 325 to be pulled causing compressed air or gas to flow to horn 310 to make a sound (e.g., as shown by the dashed lines and musical notes representing exiting air, gas and/or sound) in a manner similar to that described above.

[0030] FIG. 4 is a diagram of an example paddle 400 that may include a communication device. As illustrated in FIG. 4, paddle 400 includes a communication device 410 with which a user can communicate with another communication device 410 associated with another user, vessel, or authority (e.g., police, Coast Guard, etc.). Such communication may be made by communication device 410 transmitting one or more signals such as a light, sound, or a wireless signal to another communication device 410 or user (e.g., in the form of light or sound). Communication device 410 may be used by the user to generate and/or output a signal by pressing one or more buttons associated with communication device 410. Communication device 410 may include a power supply 415, a processor 420, speaker 425, a light 430, an antenna 435, and a control panel 440.

[0031] The number of components, illustrated in FIG. 4, is provided for explanatory purposes only. In practice, there may be additional components, fewer components, different components, or differently arranged components than illustrated in FIG. 4. Alternatively, or additionally, one or more components of communication device 410 may perform one or more other tasks described as being performed by one or more other components of communication device 410. Additionally, or alternatively, communication device 410 may be integrated within, installed in, or attached to paddle 110 alone or together with any other communication device (e.g., communication devices 210 and/or 310 of FIGS. 2A and/or 3A, respectively) and/or floatation system 600 (described below in with respect to FIG. 6).

[0032] Power supply 415 may include one or more devices that store and/or generate electrical power. For example, power supply 415 may include one or more batteries (e.g., a lithium ion battery, a lead acid battery, etc.). Additionally, or alternatively, power supply 415 may include a generator that

can produce an electrical voltage and/or current. In one example, power supply 415 may correspond to a manual generator that can be turned or cranked by the user to generate the electrical power. Additionally, or alternatively, such electrical power that is generated by the manual generator may be stored in a rechargeable battery, capacity, or some other storage device.

[0033] Processor 420 may include one or more processors and/or central processing units that execute instructions and/or logic to perform one or more functions associated with generating a signal such as sound, light, or a wireless communication signal (e.g., a cellular telephone signal, a one-way radio signal, a two-way radio signal, etc.). Processor 420 may control that manner in which a sound signal is generated and/or emitted from speaker 425. Additionally, or alternatively, processor 420 may communicate with antenna 435 to send and/or receive signals to and/or from a communication device associated with another user, another vessel 105, or an authority (e.g., the police, Coast Guard, etc.). Processor 420 may receive an instruction from the user (e.g., when the user presses one or more buttons on control panel 440) and may cause a sound to be generated (e.g., via speaker 425), light to be emitted (e.g., via light 430), or a wireless signal to be sent or received (e.g., via antenna 435). In one example, processor 420 may receive a signal or call from an authority (e.g., from server 460) via a network (e.g., network 450) and may process the signal or call to enable the user to listen to an audio signal or call from the authority. Additionally, or alternatively, the user may make a call or send an audio signal via speaker 420 and processor 420 may process the signal received from speaker 425 to transmit a wireless signal to another user or authority (e.g., via a marine radio, mobile device, landline, a server 260) via antenna 435 and/or network 450. In one example, processor 420 and/or antenna 435 may correspond to a GPS that determines a location of the user, associated with paddle 110, based on a GPS signal received via antenna 435. Processor 420 may cause information associated with the location to be transmitted, via antenna 435 and/or network 450, to an authority.

[0034] Speaker 425 may include one or more components that generate a sound based on an electrical signal received from processor 420 and/or power supply 415. Speaker 425 may also, or alternatively, include a microphone that receives a voice signal (e.g., spoken by the user) and sends an electrical signal to processor 420 based on the received voice signal. Light 430 may include one or more components that emit light or optical energy (e.g., infrared, ultraviolet, etc. energy) when a signal is received from processor 420 and/or power is received from power supply 415. Light 430 may, for example, include one or more light bulbs, light emitting diodes, or other light emitting devices. Antenna 435 may include one or more antennas that can send or receive a wireless electrical signal over the air (e.g., a one-way or two-way radio signal, a wireless cellular signal, a satellite signal, etc.). Antenna 435 may, for example, receive an electrical signal from processor 420 and may transmit the signal over the air (e.g., to network 450 or some other device or network). Antenna 435 may also, or alternatively, receive a signal over the air and may send an electrical signal to processor 420 based on the received signal.

[0035] Control panel 440 may communicate with processor 420 to enable a user to control communication device 410 by mechanically pressing one or more buttons on control panel 440. Control panel 440 may enable the user to power up or power down communication device 410; push to talk by

depressing control panel **440**; turn light **435** on or off (e.g., by pressing **440** one or more times, based on a pattern or sequence, etc.); turn communication mode on or off; to transmit a distress signal, to select communication modes (e.g., light, sound, radio, cellular, etc.). Additionally, or alternatively, the user may turn, push, or pull on handle **115**, relative to shaft **120**, to power on, power off, or control the functionality of the communication device **410**.

[0036] Communication device **410** may be integrated within handle **115** (as shown by the dashed box labeled **115** of FIG. **4**) during manufacturing and/or may be retrofitted into handle **115** after manufacturing. Additionally, or alternatively, communication device **410** may be integrated within shaft **120** (as shown by the dashed box labeled **120** of FIG. **4**) during manufacturing, may be retrofitted into shaft **120** after manufacturing, and/or may be fastened and/or mounted to shaft **120**. Additionally, or alternatively, communication device **410** may be integrated within blade **125** during manufacturing, or retrofitted or attached to blade **125** after manufacturing and before or after assembly of paddle **110**. In an example implementation, communication device **410** may include a beacon, such as an EPIRB or some other type of beacon that can alert authorities (e.g., the Coast Guard, law enforcement, etc.) in the event of distress.

[0037] Network **450** may include one or more wired and/or wireless networks. For example, network **450** may include a cellular network, a public land mobile network (PLMN), a second generation (2G) network, a third generation (3G) network, a fourth generation (4G) network (e.g., a long term evolution (LTE) network), a fifth generation (5G) network, and/or another network. Additionally, or alternatively, network **450** may include a wide area network (WAN), a metropolitan network (MAN), a telephone network (e.g., the Public Switched Telephone Network (PSTN)), an ad hoc network, an intranet, the Internet, a fiber optic-based network, and/or a combination of these or other types of networks.

[0038] Server **460** may include one or more server devices, or other types of computation or communication devices, that gather, process, search, store, and/or provide information in a manner described herein. Server **460** may communicate via network **450** with communication device **410**. Additionally, or alternatively, server **460** may be owned or operated by law enforcement (e.g., police, Coast Guard, etc.) for the purposes of controlling, monitoring and/or governing the use of waterways used by a user of vessel **105** and paddle **110**.

[0039] FIG. **5** is a diagram of example components of a device **500**. Device **500** may correspond to communication device **410**, processor **420** and/or server **460**. Alternatively, or additionally, communication device **410**, processor **420** and/or server **460** may include one or more devices **500** and/or one or more components of device **500**.

[0040] Device **500** may include a bus **510**, a processor **520**, a memory **530**, an input component **540**, an output component **550**, and a communication interface **560**. Although FIG. **5** shows example components of device **500**, in other implementations, device **500** may contain fewer components, additional components, different components, or differently arranged components than depicted in FIG. **5**. For example, device **500** may include one or more switch fabrics instead of, or in addition to, bus **510**. Additionally, or alternatively, one or more components of device **500** may perform one or more tasks described as being performed by one or more other components of device **500**.

[0041] Bus **510** may include a path that permits communication among the components of device **500**. Processor **520** may include a processor, a microprocessor, or processing logic that may interpret and execute instructions. Memory **530** may include any type of dynamic storage device that may store information and instructions, for execution by processor **520**, and/or any type of non-volatile storage device that may store information for use by processor **520**.

[0042] Input component **540** may include a mechanism that permits a user to input information to device **500**, such as a keyboard, a keypad, a button, a switch, etc. Output component **550** may include a mechanism that outputs information to the user, such as a display, a speaker, one or more light emitting diodes (LEDs), etc. Communication interface **560** may include any transceiver-like mechanism that enables device **500** to communicate with other devices and/or systems via wireless communications, wired communications, or a combination of wireless and wired communications. For example, communication interface **560** may include mechanisms for communicating with another device or system via a network (e.g., network **450**). Alternatively, or additionally, communication interface **560** may be a logical component that includes input and output ports, input and output systems, and/or other input and output components that facilitate the transmission of data to other devices.

[0043] Device **500** may perform certain operations in response to processing unit **520** executing software instructions contained in a computer-readable medium, such as memory **530**. A computer-readable medium may be defined as a non-transitory memory device. A memory device may include space within a single physical memory device or spread across multiple physical memory devices. The software instructions may be read into memory **530** from another computer-readable medium or from another device. The software instructions contained in memory **530** may cause processor **520** to perform processes described herein. Alternatively, hardwired circuitry may be used in place of or in combination with software instructions to implement processes described herein. Thus, implementations described herein are not limited to any specific combination of hardware circuitry and software.

[0044] Although FIG. **5** shows example components of device **500**, in other implementations, device **500** may include fewer components, different components, differently arranged components, or additional components than depicted in FIG. **5**. Alternatively, or additionally, one or more components of device **500** may perform one or more other tasks described as being performed by one or more other components of device **500**.

[0045] FIG. **6** is a diagram of an example floatation system **600** that is store in or deployed from paddle **110**. Floatation system **600** may include a shaft segment **610** (hereinafter “segment **610**”), a floatation bladder **615**, an access **620**, an inflation source **625** (hereinafter, “source **625**”) and a lanyard **630**. The number of components, illustrated in FIG. **6**, is provided for explanatory purposes only. In practice, there may be additional components, fewer components, different components, or differently arranged components than illustrated in FIG. **6**. Alternatively, or additionally, one or more components of floatation system **600** may perform one or more other tasks described as being performed by one or more other components of floatation system **600**. Additionally, or alternatively, Floatation system **600** may integrated within, installed in, or attached to paddle **110** alone or together with

any other communication device (e.g., communication devices 210, 310, and/or 410 of FIGS. 2A, 3A, and/or 4A, respectively).

[0046] Segment 610 may include a portion of shaft 120 and/or blade 125 that store one or more components of floatation system 600. Segment 610 may, for example, provide a water-tight storage compartment that can store bladder 615, source 625, etc. In one example, segment 610 may enable the user to store personal belongings or other material (e.g., the user's wallet, mobile device, automobile keys, etc.). Additionally, or alternatively, segment 610 may store one or more flares that can be removed from segment 610 and launched by the user. The flares may also, or alternatively, be integrated within segment 610 to enable the flares to be launched through one or more apertures within segment 610.

[0047] Segment 610 may include a diameter that is greater than that a conventional diameter of the shaft to permit an increased volume of storage capacity. Such increased volume may enable objects of different or greater dimensions or volume to be stored as compared to a storage compartment within the shaft of the conventional diameter. Additionally, or alternatively, the increased storage capacity may enable a larger, higher capacity bladder 615 to be stored and/or deployed by paddle 110.

[0048] Bladder 615 may include a device that can be stored within segment 610 and/or inflated (e.g., with air or some other gas, and/or an expandable foam) when removed or deployed from segment 610. Bladder 615 may be made of a flexible material (e.g., rubber, a polymer, plastic, etc.) of sufficient strength to be stored in segment 610; to store air, gas, or foam under pressure; and/or to enable the user to use bladder 615 as an aid in floatation while engaged in a water sport or in the event of distress or incapacitation in or on the water. Bladder 615 may be inflated by the user (e.g., when the user blows into or uses an air pump to inflate floatation device 115) or source 625. Access 620 may include an opening in segment 610 that enables floatation device 615, source 625 or the user's personal belongings to be stored, removed or, in the case of floatation device 615 to be deployed. Access 620 may, for example, include a mechanism (e.g., mechanical hinge, a flexible material, etc.) to enable access 620 to be opened and/or closed. Access 620 may also, or alternatively, include a mechanism that enables access 620 to be secured or locked in a closed position and/or to preclude water from entering segment 610 when paddle 110 is floating on or is submerged under the surface of the water. Source 625 may include a canister that stores under pressure air, another gas, or an expandable material (e.g., expandable foam, etc.) to be used to inflate bladder 615 when access 620 is opened and/or when bladder 615 is deployed or ejected from segment 610.

[0049] Lanyard 630 may include a wire, cable, strap, string, or the like that is attached, by a first end, to bladder 615, access 620, and/or source 625 that enables the user to deploy bladder 615, access 620, or cause source 625 to release pressurized air, gas, or other material (e.g., foam) into and inflate bladder 615. Additionally, or alternatively, lanyard 630 may include a second end that is connected to handle 115 that allows the user to pull on lanyard 630 (e.g., by rotating, pulling, and/or removing handle 115, etc.). Additionally, or alternatively, the second end may include a loop or be attached to some other device, that can be gripped by the user and pulled to deploy bladder 615, open access 620, or cause source 625 to release pressurized air, gas, or other material into bladder 615. The first end of lanyard 630 may also, or

alternatively, be attached to a compressed spring or some other mechanism within segment 610 that, when pulled on by the user, causes access 620 to open and/or floatation device 610 and/or source 625 to be forcibly ejected segment 610 and/or inflation of bladder 615. Additionally, or alternatively, lanyard 630 may be connected to a communication device 410 (FIG. 4) to cause a distress signal to be transmitted, by communication device 410, when lanyard 630 is pulled, source 625 releases pressurized gas, air, or foam, and/or when bladder 615 is deployed.

[0050] Additionally, or alternatively, segment 610 may enable any of the systems, components, and/or devices described above with respect to FIGS. 1 through 6 to be integrated with segment 610, access 620, lanyard 630, etc. Segment 610, access 620, lanyard 630, etc. may, for example, include a length, radius, shape and/or volume that can be specified based on the dimensions, volume, and/or quantity of such systems, components, and/or devices to be included in segment 610. One or more segments 610 may also, or alternatively, be located at any location along shaft 120. For example, segment 610 may be located closer to handle 115 than blade 125 to reduce an amount of swing weight of paddle 110 or to enable the user to more easily control the systems, components, and/or devices (e.g., by pressing one or more buttons, and/or by turning, pushing, or pulling handle 115 to cause lanyard 630 to control one or more of the systems, components, and/or devices).

[0051] The foregoing description provides illustration and description, but is not intended to be exhaustive or to limit the implementations to the precise form disclosed. Modifications and variations are possible in light of the above disclosure or may be acquired from practice of the embodiments.

[0052] It will be apparent that technologies and/or techniques, as described above, may be implemented in many different forms of hardware in the implementations illustrated in the figures. The actual or specialized hardware used to implement these technologies and/or techniques is not limiting of the embodiments—it being understood that hardware can be designed to implement the technologies and/or techniques based on the description herein.

[0053] It should be emphasized that the terms “comprises”/“comprising” when used in this specification are taken to specify the presence of stated features, integers, steps or components but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

[0054] Even though particular combinations of features are recited in the claims and/or disclosed in the specification, these combinations are not intended to limit the disclosure of the embodiments. In fact, many of these features may be combined in ways not specifically recited in the claims and/or disclosed in the specification. Although each dependent claim listed below may directly depend on only one other claim, the disclosure of the embodiments includes each dependent claim in combination with every other claim in the claim set.

[0055] No element, act, or instruction used in the present application should be construed as critical or essential to the embodiments unless explicitly described as such. Also, as used herein, the article “a” and “an” are intended to include one or more items and may be used interchangeably with “one” or “more.” Where only one item is intended, the term “one” or similar language is used. Further, the phrase “based on” is intended to mean “based, at least in part on” unless explicitly stated otherwise.

What is claimed is:

1. A paddle apparatus for use by a user, of a vessel, to propel the vessel through water, the paddle apparatus comprising:

- a shaft having a first end and a second end that is opposite of the first end,
- a blade that is attached to the first end,
- a handle that is attached to the second end, and
- a communication device, the communication device being included within the handle or the shaft.

2. The paddle apparatus of claim **1**, where the communication device includes at least one of:

- a whistle;
- a horn;
- an air horn;
- a speaker; or
- an electric horn.

3. The paddle apparatus of claim **2**, further comprising: a power supply that is connected to the communication device when the communication device includes the speaker or the electric horn.

4. The paddle apparatus of claim **1**, where the communication device includes a whistle that is formed by, or integrated into, material on which the handle is based.

5. The paddle apparatus of claim **1**, where a first shape, of the handle that includes the communication device, is approximately the same as a second shape, of the handle, if the handle did not include the communication device.

6. The paddle apparatus of claim **1**, where the communication device is an electronic communication device that corresponds to at least one of:

- a radio device,
- a Global Positioning System (GPS) device,
- a smartphone,
- an Emergency Position Indicating Radio Beacon (EPIRB),
- a light source,
- an electric horn, or
- a loud speaker.

7. The paddle apparatus of claim **1**, where the communication device corresponds to a whistle and where the handle further comprises at least one of:

- an input aperture into which the user can blow air to cause the whistle to make a sound,
- a hollow channel of a dimension or shape through which the blown air can flow from the input aperture to cause a vibration, acoustic wave, or the sound to occur, or
- an output aperture from which the blown air, the vibration, the acoustic wave, or sound exits the handle.

8. The paddle apparatus of claim **1**, where the communication device corresponds to an air horn, the air horn including a canister to store compressed gas, a trigger, and a horn through which compressed air flows to make a sound when the trigger is pulled, and

where the handle or the shaft further comprises at least one of:

- a cavity in which the air horn can be inserted when the handle is removed from the second end of the shaft,
- a button that, when pressed by the user, enables the trigger to be pulled, or
- an output aperture from which the compressed air or sound exits the handle.

9. The paddle apparatus of claim **1**, where the shaft includes a different communication device, the different communication device including at least one of:

- a whistle;
- a horn;
- an air horn;
- a speaker; or
- an electric horn.

10. The paddle apparatus of claim **9**, further comprising: a power supply that is connected to the communication device when the communication device includes the speaker or the electric horn.

11. The paddle apparatus of claim **1**, where the shaft further comprises:

- a segment that corresponds to a portion of a length of the shaft, the segment including at least one of:
- a water-tight storage compartment,
- a communication device to enable the user to communicate wirelessly with another communication device,
- a floatation system that provides sufficient buoyancy in water to enable the user to remain afloat when in distress, one or more first flares that can be launched by the user, or one or more second flares that can be launched via one or more apertures within segment.

12. The paddle apparatus of claim **11**, where the segment includes a first diameter, associated with the portion of the shaft, that is greater than a second diameter of a remaining portion of the length of the shaft.

13. The paddle apparatus of claim **11**, where the floatation system includes at least one of:

- a bladder that can be inflated with gas or foam when removed or deployed from the segment,
- a canister to store gas or foam under pressure, or
- a lanyard, that when pulled by the user, causes the gas or the foam to flow to the bladder to enable the bladder to be removed or deployed from the segment to inflate.

14. A paddle apparatus for use by a user, of a vessel, to propel the vessel through water, the paddle comprising:

- a shaft having a first end and a second end that is opposite of the first end,
- a first blade that is attached to the first end,
- a handle or a second blade that is attached to the second end, and
- an electronic communication device that is integrated within or attached to the handle, the shaft, or the second blade,

the electronic communication device enabling the user to communicate with another user or authorities via a network or over the air.

15. The paddle apparatus of claim **14**, where the electronic communication device corresponds to at least one of:

- a radio device,
- a Global Positioning System (GPS) device,
- a smartphone,
- an Emergency Position Indicating Radio Beacon (EPIRB),
- a light source,
- an electric horn, or
- a loud speaker.

16. The paddle apparatus of claim **14**, where the electronic communication device further comprises:

- a power supply to provide electrical power to the processor,
- a processor that is programmed to execute one or more instructions or logic to:
 - receive an instruction to communicate,
 - generate a first signal based on the instruction, and
 - output the first signal; and

an output component to:
 receive the first signal from the processor, and
 output a second signal based on the first signal.

17. The paddle apparatus of claim **15**, where the output component includes at least one of:
 a speaker to output a sound, the sound corresponding to the second signal,
 an antenna to output a radio frequency signal, the radio frequency signal corresponding to the second signal, or
 a light source to output light, the light corresponding to the second signal based on the received signal.

18. The paddle apparatus of claim **15**, further comprising:
 a control panel to enable the user to communicate with the processor to:
 power up or power down the electronic communication device,
 to turn a light source on or off,
 to select a communication mode, the communication mode corresponding to at least one of a light mode, a sound mode, a radio mode, or a cellular communication mode, or
 transmit a distress signal.

19. The paddle apparatus of claim **14**, where the shaft further comprises:
 a floatation device that can be deployed by the user in case of distress, the deployment of the floatation device causing the electronic communication device to transmit a distress signal.

20. The paddle apparatus of claim **14**, further comprising a communication device that corresponds to at least one of:
 a whistle;
 a horn;

an air horn; or
 an electric horn.

21. The paddle apparatus of claim **20**, where the communication device is integrated in the handle, the shaft or the blade.

22. The paddle apparatus of claim **14**, where the electronic communication device includes a beacon that can alert authorities in the event of distress.

23. A manual marine propulsion apparatus, comprising:
 a shaft,
 a handle that is attached to one end of the shaft, and
 one or more communication devices that are included within, or are attached to, the shaft, the handle, or a combination of the shaft and the handle.

24. The manual marine propulsion apparatus of claim **23**, where the one or more communication devices include at least one of:
 a whistle,
 a horn,
 an air horn,
 a speaker,
 an electric horn,
 a radio device,
 a Global Positioning System (GPS) device,
 a smartphone,
 an Emergency Position Indicating Radio Beacon (EPIRB),
 a light source, or
 a loud speaker.

25. The manual marine propulsion apparatus of claim **23**, further comprising a segment of the shaft that includes one of:
 a floatation device, or
 one or more flares that can be launched from the segment.

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