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(54) **AQUATIC SEAT**

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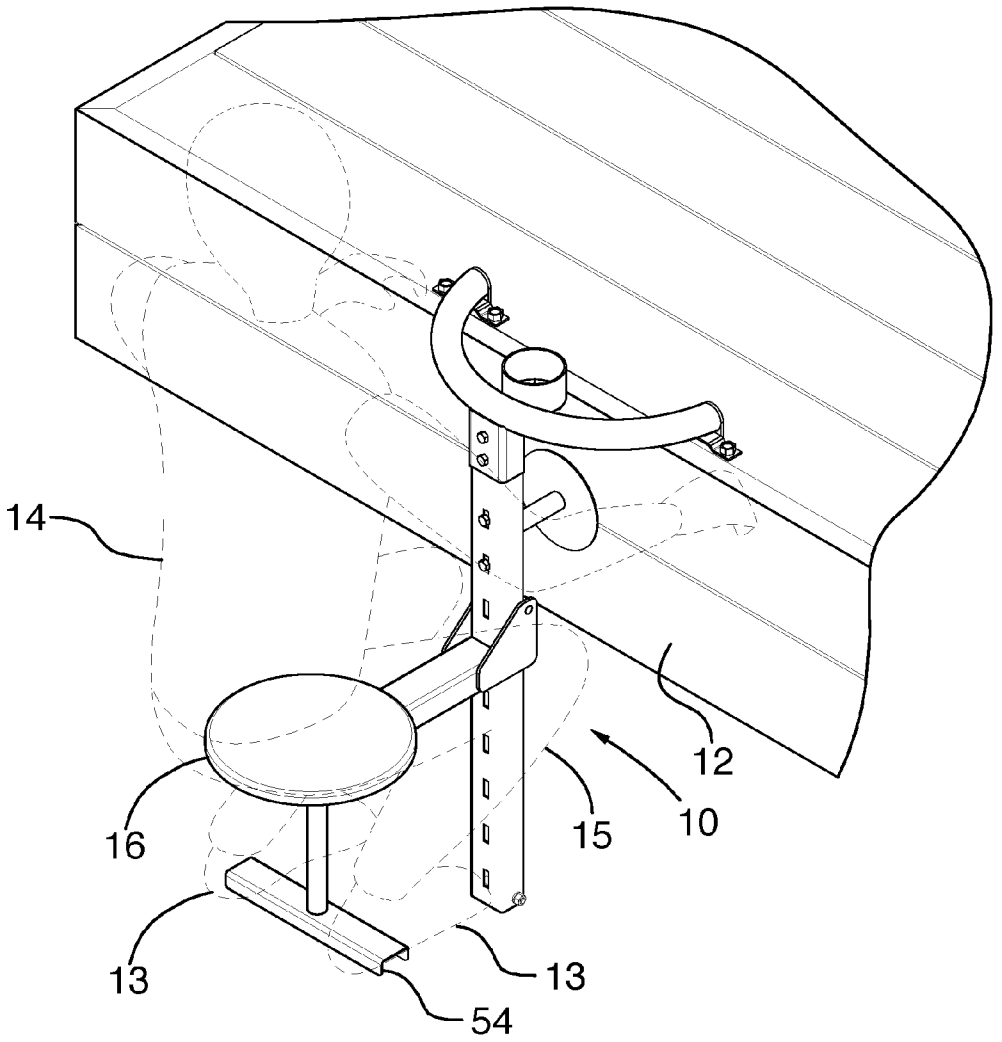
(57) **ABSTRACT**

An aquatic seat assembly includes a seat for supporting a user and a seat support structure for attaching the seat to a wall such as a dock. The seat support structure includes an adjustment mechanism for adjusting the height of the seat relative to the wall such that the seat can be raised or lowered.



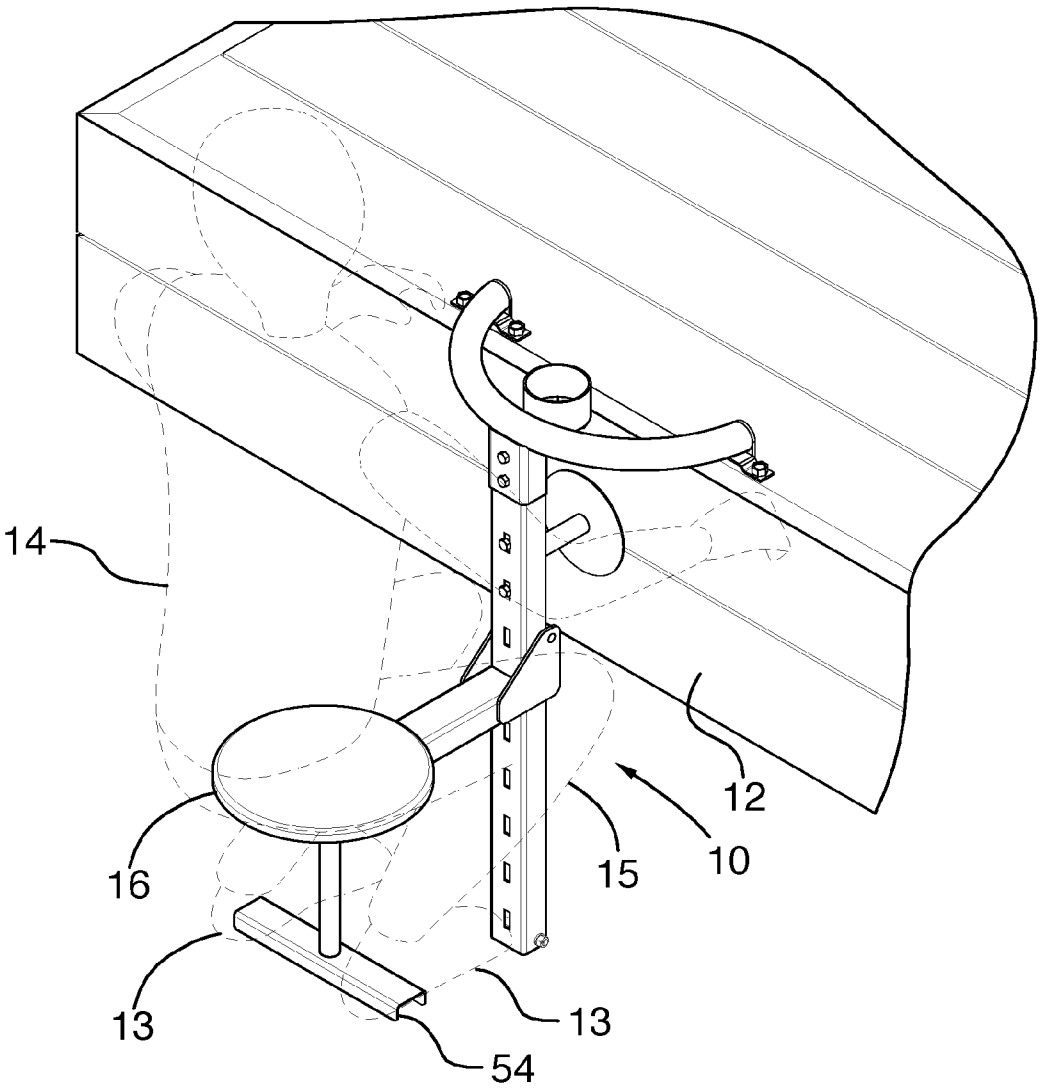


FIG.1

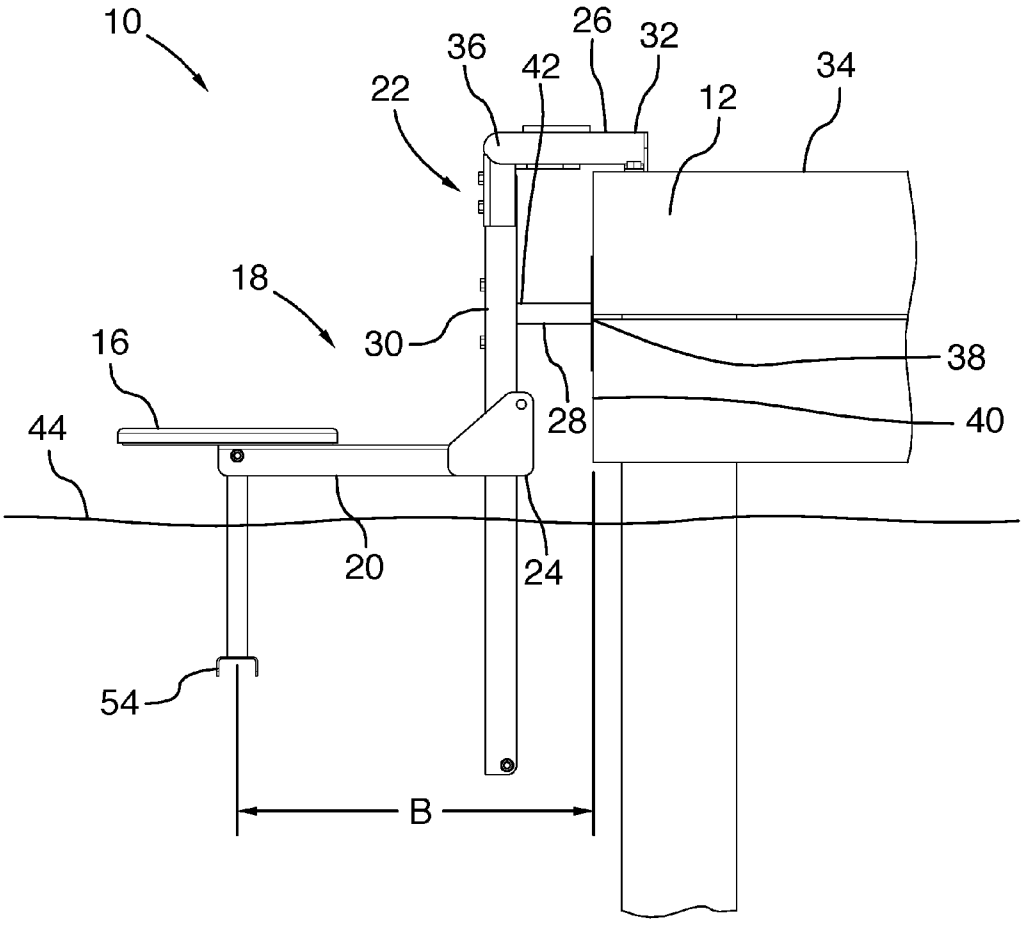


FIG.2

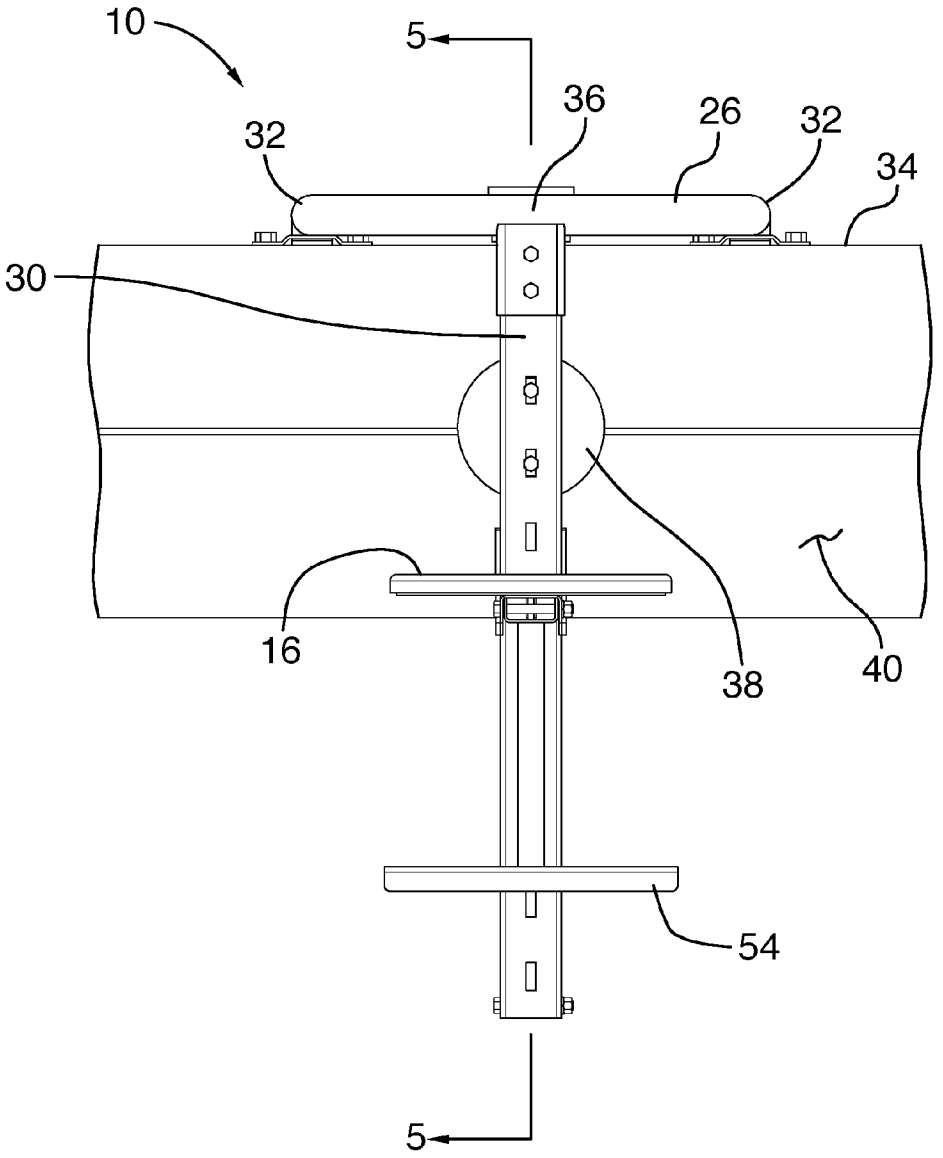


FIG.3

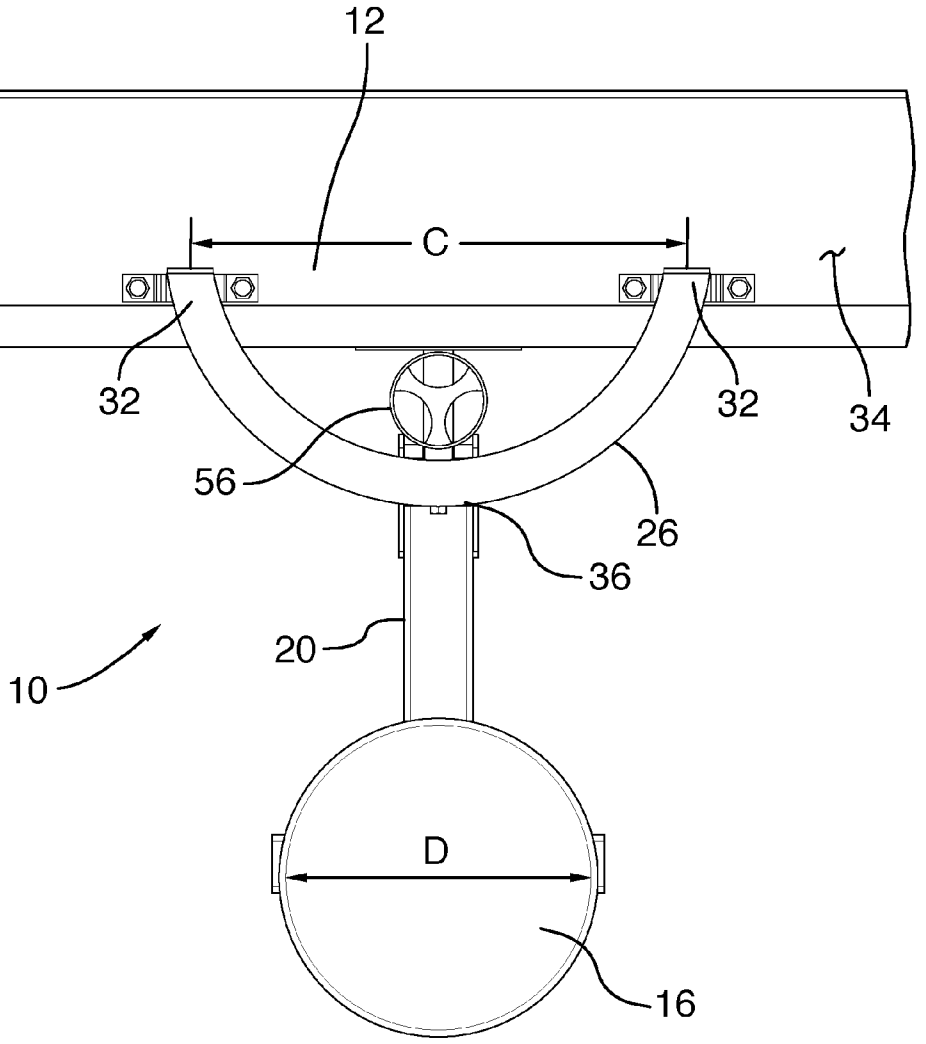


FIG.4

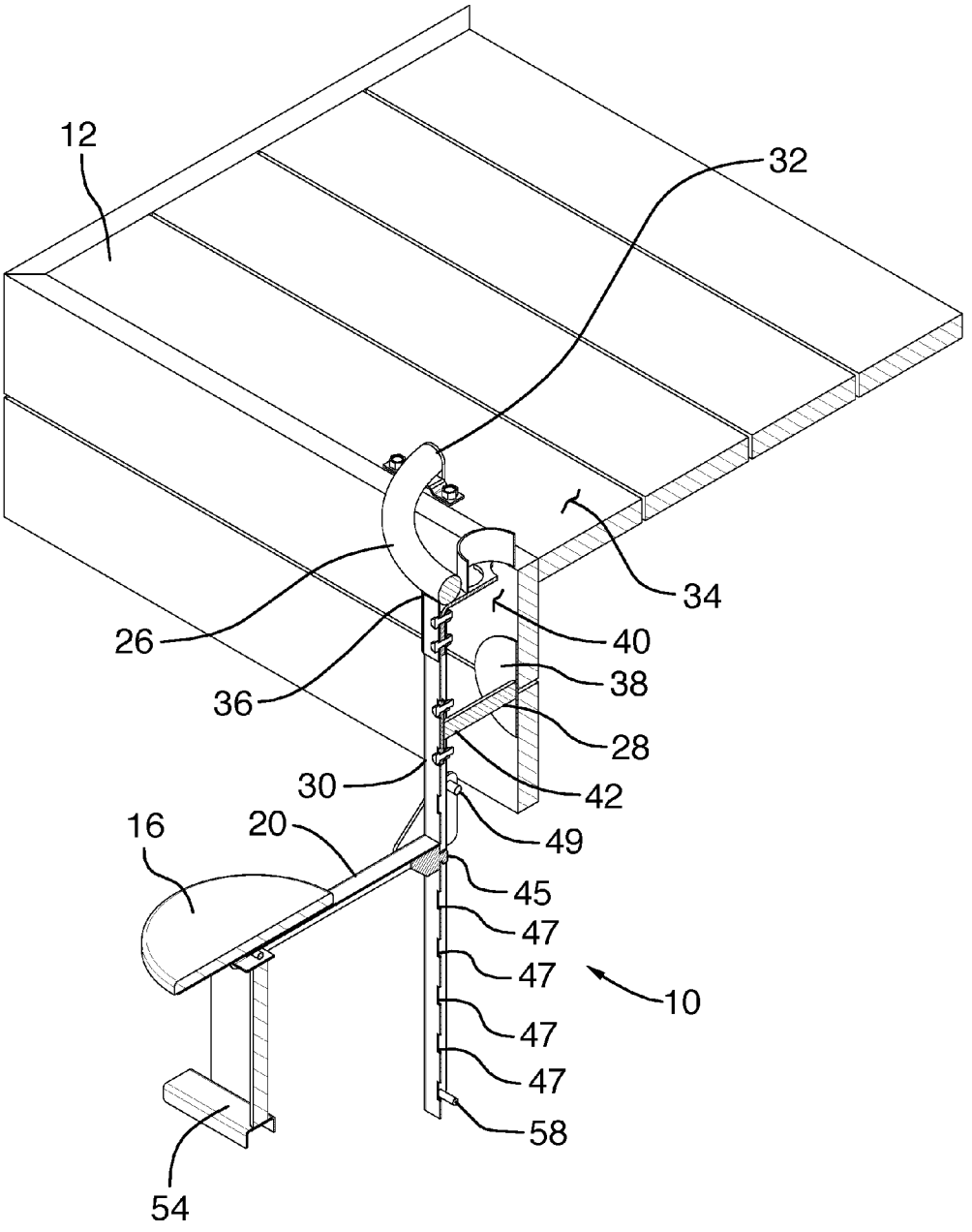


FIG.5

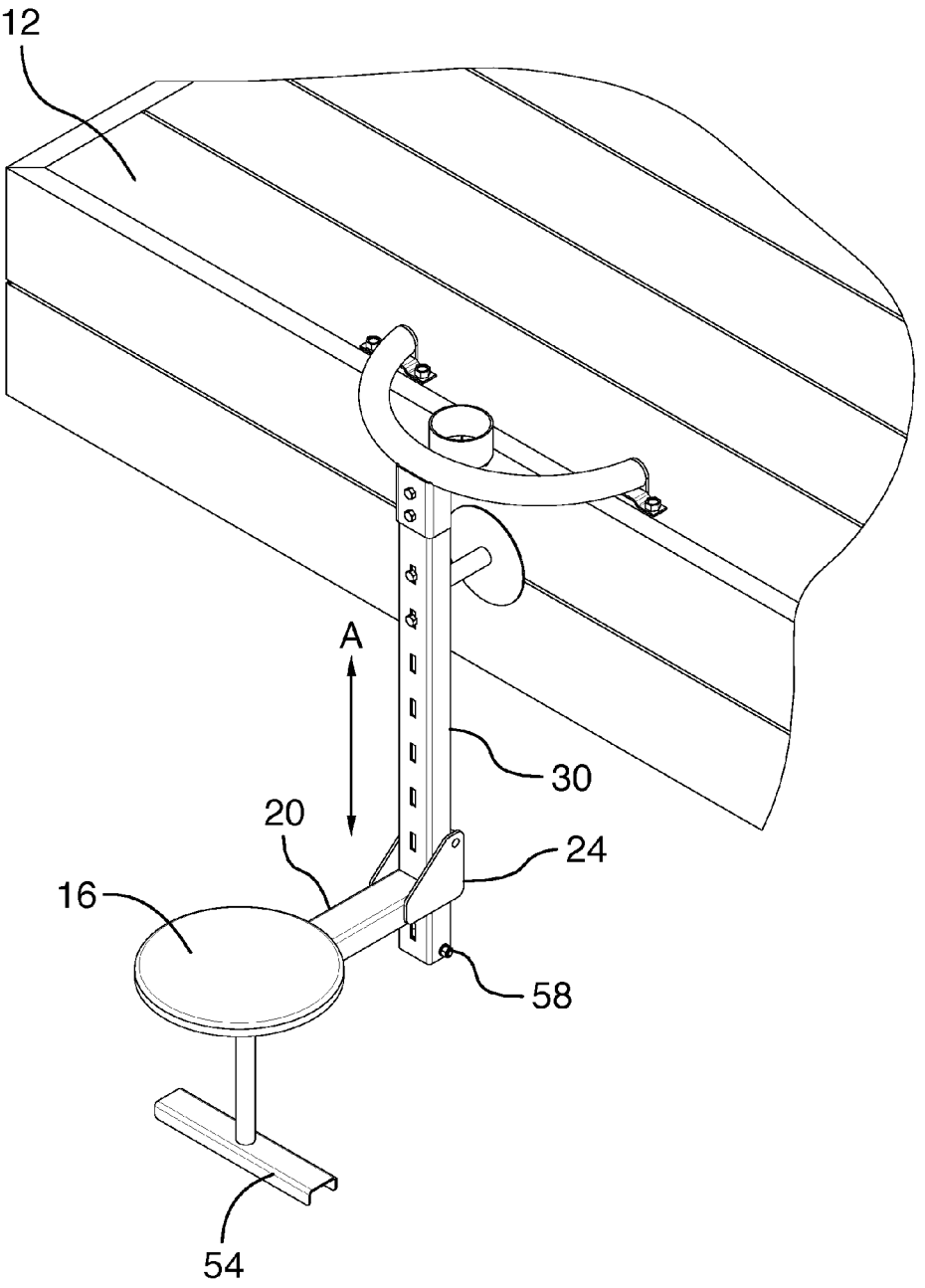


FIG.6

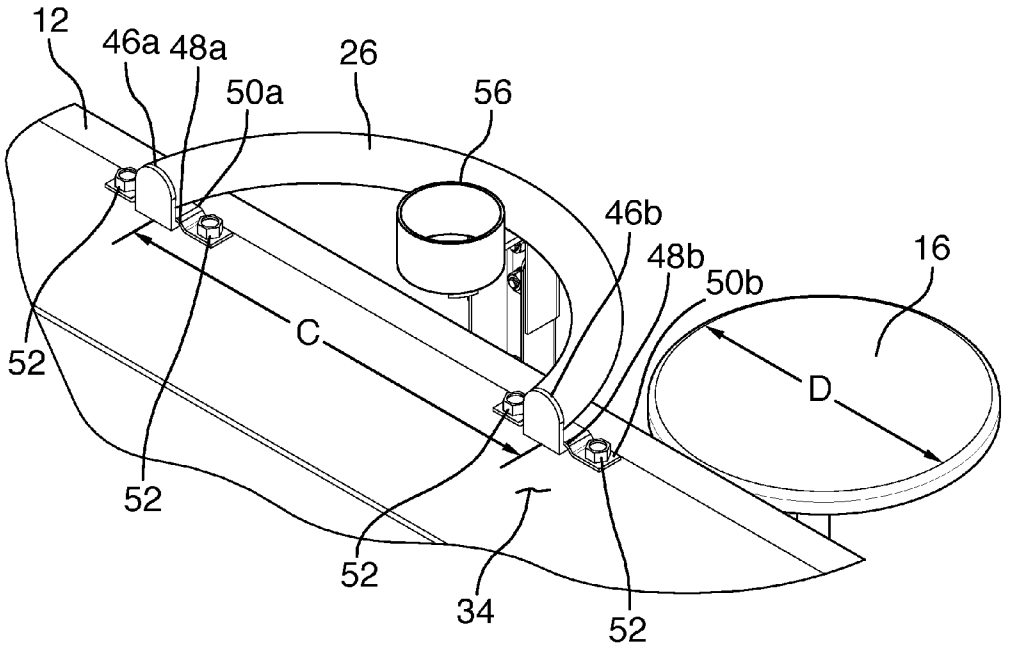


FIG.7

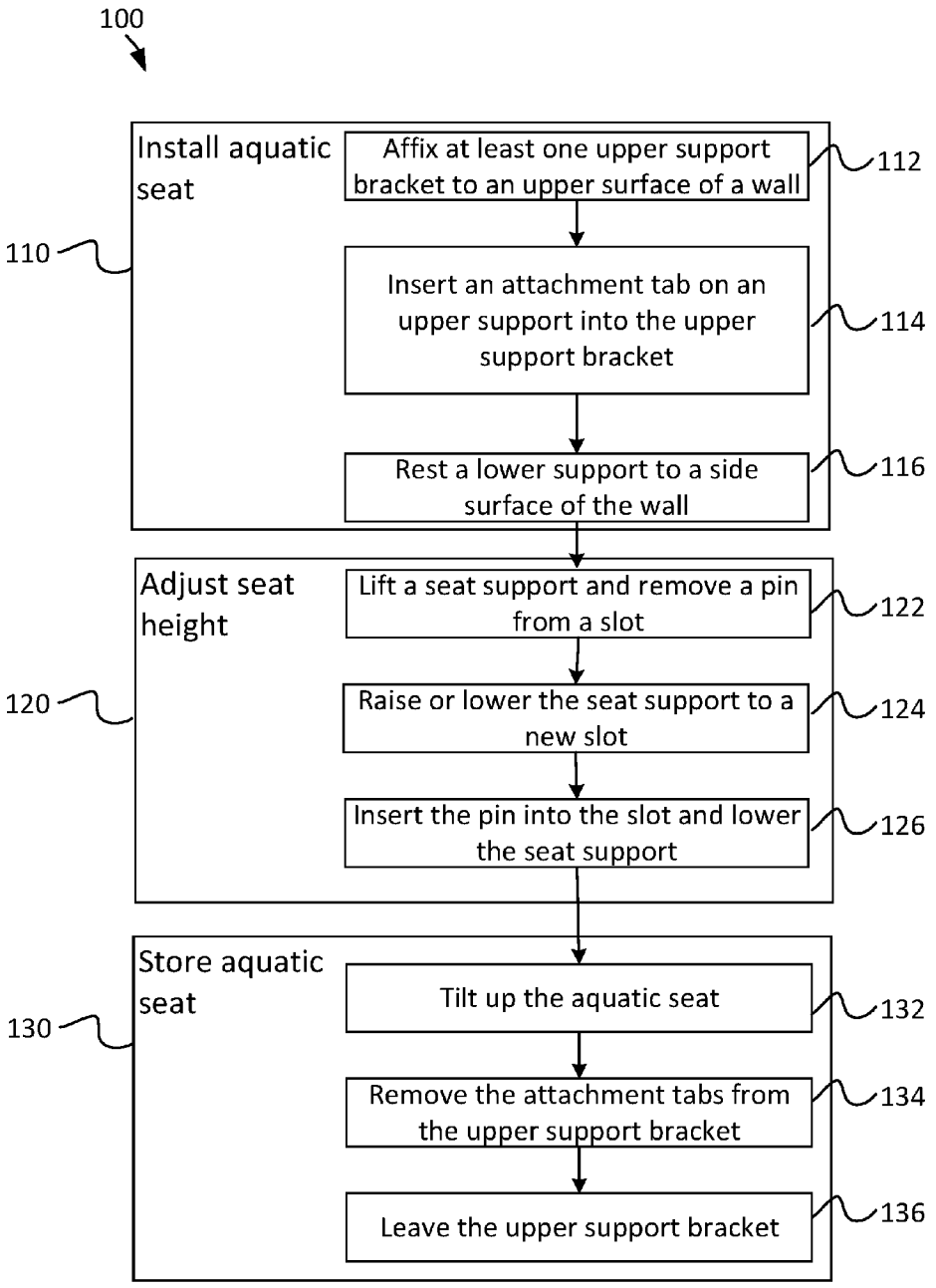

100
Install aquatic seat
110
Affix at least one upper support bracket to an upper surface of a wall
112
Insert an attachment tab on an upper support into the upper support bracket
114
Rest a lower support to a side surface of the wall
116
Adjust seat height
120
Lift a seat support and remove a pin from a slot
122
Raise or lower the seat support to a new slot
124
Insert the pin into the slot and lower the seat support
126
Store aquatic seat
130
Tilt up the aquatic seat
132
Remove the attachment tabs from the upper support bracket
134
Leave the upper support bracket
136

FIG. 8

AQUATIC SEAT

RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 62/180,276 filed Jun. 16, 2015, the entire contents of which are hereby incorporated by reference herein for all purposes.

TECHNICAL FIELD

[0002] The embodiments disclosed herein relate to aquatic seating, and, in particular, to an aquatic seat assembly for supporting a user.

INTRODUCTION

[0003] The following paragraphs are not an admission that anything discussed in them is prior art or part of the knowledge of persons skilled in the art.

[0004] In the field of water recreation, it may be desirable for a user to stay in or near the water while being supported by a seat to rest on the seat. For example, swim up bars at pools have seats affixed to the pool bottom. For example, the seat in a conventional swim up bar may be a pedestal or a single leg stool. The pedestal seats of the pool swim up bar are not adjustable in height.

[0005] It may not be practical, in open water dock environments or with deep pools, to support to have a pedestal seat. In some cases, it may be desirable to not have the seat permanently affixed to the bottom.

[0006] Platforms for aiding a swimmer to get in and out of a boat are described in U.S. Pat. No. 5,025,747 ('747). As the transitioning platform described in '747 is for a boat, the transitioning platform relies on a buoyancy balloon which may be cumbersome and block entry onto the platform. Further, the height of the transitioning platform would be dependent on the water level.

[0007] U.S. Pat. No. D468,116 ('116) shows ornamental design for a table and stools for a swimming pool. The design shows a three separate piece set on the side of a pool where the two stools are set to face the table. The table has an optional umbrella. The stools and table are fixed in height as the design is for use in pools where the water level would remain generally consistent. The user is not given an option of how high to have the seat relative to the water level. Also, pools may have the water level at or near the ledge of the pool. Where the water level of the pool is the same as the ledge, the table may be undesirably below the surface of the water, while the seats may be too far below the surface of the water to be desirable for sitting. The way that the table and pool are pivotably attached to the pool deck and are flipped up for storage may obstruct the pool deck.

SUMMARY

[0008] According to some embodiments, there is an aquatic seat assembly including a seat for supporting a user, a seat support for attaching to and supporting the seat, a wall support including a plurality of wall attachments spaced laterally apart for attaching to a surface of the wall, and an adjustment mechanism for adjustably attaching the wall support to the seat support such that the height of the seat relative to the wall can be raised or lowered.

[0009] According to some embodiments, there is an aquatic seat assembly including a seat for supporting a user and a seat support structure for attaching the seat to a wall, the seat support structure including an adjustment mechanism for adjusting the height of the seat relative to the wall such that the seat can be raised or lowered.

[0010] In some embodiments, the seat support structure includes a seat support for attaching to and supporting the seat and a wall support for attaching to the wall. The adjustment mechanism adjustably attaches the wall support to the seat support such that the height of the seat may be adjusted by the user.

[0011] In some embodiments, the seat is offset from the wall by an offset distance sized to fit legs of the user.

[0012] In some embodiments, the wall support includes a plurality of upper wall attachments for attaching to an upper surface of the wall.

[0013] In some embodiments, the wall support includes a lower wall support having a plate for resting on a side surface of the wall.

[0014] In some embodiments, the plurality of upper wall attachments are spaced apart at a lateral distance to resist torsion of the upper wall attachments.

[0015] In some embodiments, the lateral distance is greater than a width of the seat such that the upper wall attachments extend laterally beyond the side of the seat.

[0016] In some embodiments, each of the plurality of upper wall attachments includes an attachment tab for slidably engaging with an upper support bracket, wherein the upper support bracket is affixed to the upper surface of the wall.

[0017] In some embodiments, the adjustment mechanism includes at least one pin and the wall support includes a plurality of slots, wherein the pin matingly engages with the slot to keep the seat in place.

[0018] In some embodiments, the wall support includes a connecting member having the slots.

[0019] In some embodiments, the slots in the connecting member are used to attach the connecting member to an upper wall support and a lower wall support.

[0020] In some embodiments, the connecting member includes a lock to stop the adjustment mechanism from separating from the wall support.

[0021] In some embodiments, the seat support structure is made of any one or more of a non-corroding material, a non-corroding coated material, or a composite plastic.

[0022] In some embodiments, the aquatic seat assembly further includes a foot rest below the seat for supporting feet of the user.

[0023] In some embodiments, the aquatic seat assembly further includes a cup holder attached to the wall support for holding an accessory.

[0024] In some embodiments, the height of the seat may be adjusted to a varying water level.

[0025] In some embodiments, the wall is a dock and the water is a body of water such as a lake, ocean, or a river.

[0026] According to some embodiments, there is a method for installing an aquatic seat to a wall. The method includes affixing at least one upper support bracket to an upper surface of the wall, inserting an attachment tab on an upper support of the aquatic seat assembly into the attachment bracket, and resting a lower attachment on a side surface of the fixed wall.

[0027] According to some embodiments, there is a method for adjusting the height of an aquatic seat assembly. The method includes lifting a seat support and removing a pin

from a first slot, raising or lowering the seat support to a second slot, and inserting the pin into the second slot and lowering the seat support.

[0028] Other aspects and features will become apparent, to those ordinarily skilled in the art, upon review of the following description of some exemplary embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

[0029] The drawings included herewith are for illustrating various examples of articles, methods, and apparatuses of the present specification. In the drawings:

[0030] FIG. **1** is a perspective view of an aquatic seat assembly supporting a user, according to one embodiment;

[0031] FIG. **2** is an elevation view of the aquatic seat assembly of FIG. **1**;

[0032] FIG. **3** is an side view of the aquatic seat assembly of FIG. **1**;

[0033] FIG. **4** is a top view of the aquatic seat assembly of FIG. **1**;

[0034] FIG. **5** is a section view of the aquatic seat assembly along **5-5** of FIG. **3**;

[0035] FIG. **6** is a perspective view of the aquatic seat assembly of FIG. **1**, in a second position;

[0036] FIG. **7** is a detailed view of a dock attachment for the aquatic seat assembly of FIG. **1**; and

[0037] FIG. **8** is a flow chart of a method for using an aquatic seat assembly, in accordance with an embodiment.

DETAILED DESCRIPTION

[0038] Various apparatuses or processes will be described below to provide an example of each claimed embodiment. No embodiment described below limits any claimed embodiment and any claimed embodiment may cover processes or apparatuses that differ from those described below. The claimed embodiments are not limited to apparatuses or processes having all of the features of any one apparatus or process described below or to features common to multiple or all of the apparatuses described below. It is possible that an apparatus or process described below is not covered by any of the claimed embodiments. Any embodiment disclosed below that is not claimed in this document may be the subject matter of another protective instrument, for example, a continuing patent application, and the applicants, inventors or owners do not intend to abandon, disclaim or dedicate to the public any such embodiment by its disclosure in this document.

[0039] Referring to FIGS. **1** to **7**, illustrated therein is an aquatic seat assembly **10**, in accordance with an embodiment. The aquatic seat assembly **10** attaches to a wall **12** and may be placed in water **44** (shown in FIG. **2**). The wall **12** may be a dock, raft, shoreline, poolside or the like. In an embodiment, the wall **12** is fixed to the shore or ground, (e.g., the wall **12** is not a boat). The wall **12** or dock may be floating and suspended on the surface of the water **44**. The wall **12** has an upper surface **34** generally horizontal and parallel to the surface of the water **44**. The upper surface **34** may be a top surface of the dock. The wall **12** has a side surface **40** that may be generally perpendicular to the surface of the water **44**.

[0040] The aquatic seat assembly **10** is configured to support a user **14** sitting on the aquatic seat assembly **10**. The user **14** may sit facing the wall **12** (as shown in FIG. **1**) or may sit facing away from the wall **12**. It may be enjoyable for the user **14** to sit in the water **44** for an extended period of time. The water **44** may be a body of water such as a lake, ocean, or a river. In some cases, the water **44** may be a pool.

[0041] The aquatic seat assembly **10** includes a seat **16** for supporting the user **14** and a seat support structure **18** for attaching the seat **16** to the wall **12**. The seat **16** may be made of a solid material able to accommodate the posterior of the user **14**. In an embodiment, the seat **16** is made of a padded soft comfortable material.

[0042] The seat support structure **18** may be made of, or coated in, a non-corroding material such as stainless steel, a corrosive resistant paint, or a composite plastic. The seat support structure **18** may resist destruction in aquatic environments (e.g. caused by water, salt, and/or organic materials).

[0043] The seat support structure **18** includes a seat support **20** for attaching to the aquatic seat assembly **10**. The seat support structure **18** also includes a wall support **22** for attaching to the wall **12**. The seat **16** may be laterally offset from the wall **12** by an offset distance B. The offset distance B between the wall **12** and the seat **16** may be sized to fit legs **15** of the user **14** (e.g. the bent legs **15** as shown in FIG. **1**).

[0044] The wall support **22** includes an upper wall support **26**, a lower wall support **28** and a connecting member **30**. The upper wall support **26** is attached at a first end **32** to the upper surface **34** of the wall **12**. The upper wall support **26** is attached at a second end **36** to the connecting member **30**. In an embodiment, the connecting member **30** may be a U column or box column.

[0045] The lower wall support **28** is attached at a first end **38** to the side surface **40** of the wall **12**. The lower wall support **28** is attached at a second end **42** to the connecting member **30**. The lower wall support **28** includes a plate, having a larger surface area, at the first end **38** for resting on the side surface **40** of the wall **12**.

[0046] The upper wall support **26** and/or the lower wall support **28** may have a plurality of contact points with the fixed wall. For example, the upper wall support **26** may contact the wall **12** at multiple contact points on the upper surface **34** of the wall **12**.

[0047] The seat support **20** includes an adjustment mechanism **24** for adjustably attaching to the wall support **22**. In an embodiment, the adjustment mechanism **24** is attached to the wall support **22** such that the height of the seat support **20** may be adjusted by the user **14**. In an alternative embodiment, the wall support **22** may include the adjustment mechanism **24** such that the connecting member **30** may move up and down to vary the height of the seat **30**.

[0048] The adjustability of the adjustment mechanism **24** may accommodate varying water levels as desired by the user **14**. In some cases, it may be desirable for the seat **16** to be just below the surface of water **44**. In some cases, the seat **16** is adjusted to be just above the surface of the water **44**. In other cases, the seat **16** is adjusted to be just below the surface of the water **44**.

[0049] Adjusting may be advantageous where the water level **44** changes, for example with the tide, the season, or caused by the weather (e.g. wind and waves). Further, adjusting the height of the seat **16** may also allow for different size users. Also, while transitioning platforms are above water (so the user in transition remains dry) and swim up seats are designed to be below the surface of the water, an adjustable seat **16** height may be changed based on the desired location of the particular user **14**.

[0050] The adjusted seat **16** may accommodate differences in dock and pool designs or differences in user preferences. As the buoyancy of the user **14** affects the height of the seat **16**, if the user **14** is small (e.g. a child) the height of the seat **16** may be adjusted upward to match the body size and buoyancy of the user **14**. Where the user **14** is larger, the seat **16** can be positioned lower in the water **44**. Further, depending on the temperature of the water **44**, the temperature of the air, and the comfort level of the user **14**, the height of the seat **16** can be adjusted such that the user **14** is at a desired comfort range. On hot days, the user **14** may want to be lower in cool water **44**. Where the water **44** is cold, the user **14** may want to be above the surface of the water **44** with only their feet **13** and legs **15** in the water **44**. Finding this correct and desirable position is possible with the height adjustable seat **16**.

[0051] In an embodiment, the adjustment mechanism **24** includes at least one attachment such as a pin **45** and the wall support **22** includes a plurality of holes or slots **47**. The pin **45** matingly engages with the slot **47** to keep the seat support **20** in place. The pin **45** may have a curled tab to cause the engagement with the seat support **20**. The adjustment mechanism **24** also includes a stop **49** that rests on the connecting member **30** from the weight of the seat support structure **18** and the seat **16**, and when in use, the weight of the user **14**. The adjustment mechanism **24** may have other configurations, as may be known in the art.

[0052] The stop **49** may include one or more pins, as shown. In a variant embodiment, the stop **49** includes one or more folded flanges on the wall side of the adjustment mechanism **24**, such that the adjustment mechanism **24** and stop **49** are formed from a single piece.

[0053] To adjust the height of the seat **16** (e.g. along direction A of FIG. **6**), the seat support **20** is lifted vertically such that the pin **45** is raised in the slot **47**. The seat support **20** is pivoted towards the wall support **22** such that the pin **45** is removed from the slot **47** and the stop **49** is no longer resting on the connecting member **30**. The seat support structure **18** and the seat **16** are then raised or lowered as desired along direction A to another slot **47** position.

[0054] To set the height of the seat **16**, the process is reversed. The pin **45** is inserted into the new slot **47**, the seat support structure **18** is pivoted away from the wall support **22** and the stop **49** rests against the connecting member **30**. The seat support structure **18** is then lowered such that the pin **45** engages with the slot **47**. The seat **16** is then ready to support the user **14**.

[0055] FIG. **6** illustrates the seat **16** in a second and different position relative to the first position shown in FIGS. **1-3**. For example, the seat **16** is lowered along direction A.

[0056] In an embodiment, the connecting member **30** may be a U column or box column having the slots **47**. In an embodiment, the slots **47** are also used to attach to the upper wall support **26** and the lower wall support **28**.

[0057] As shown in FIG. **7**, the upper wall support **26** includes two upper wall attachments **46***a*, **46***b* that are spaced apart at a lateral distance C. The upper wall attachments **46***a*, **46***b* are spaced apart at the lateral distance C and may resist torsion of the upper wall attachments **46***a*, **46***b*. In an embodiment, the lateral distance C is greater than a width D of the seat **16** such that the upper wall attachments **46***a*, **46***b* extend laterally beyond the side of the seat **16**.

[0058] Each of the upper wall attachments **46***a*, **46***b* includes an attachment tab **48***a*, **48***b* for slidably engaging into a gap between the upper support bracket **50***a*, **50***b* and the upper surface **34**. The upper support brackets **50***a*, **50***b* are affixed to the upper surface **34** of the wall **12** by fasteners **52** (for example, screws or bolts).

[0059] In an alternative embodiment, the aquatic seat assembly **10** includes a single upper wall attachment. In an embodiment, the upper wall attachments may include a friction connection such as tabs that fit into the spaces between boards of a dock.

[0060] The aquatic seat assembly **10** may include a foot rest **54** attached to the seat support **20** and positioned below the seat **16** for supporting the feet **13** of a user **14**.

[0061] The aquatic seat assembly **10** may include a cup holder **56** for holding an accessory such as a cup (not shown). The cup holder **56** is attached to the wall support **22**. The cup holder **56** is sized and shaped to hold a beverage container. In an embodiment, the cup holder **56** is located between the upper wall support **26** and the wall **12**. The cup holder **56** may hold other accessories such as an umbrella or the like.

[0062] The aquatic seat assembly **10** may include a lock **58** to inhibit the adjustment mechanism **24** from separating from the wall support **22**. The lock **58** is attached at a bottom end of the connecting member **30**. The lock **58** may be, for example, a bolt as shown.

[0063] FIG. **8** illustrates a method **100** for using an aquatic seat (e.g. the aquatic seat assembly **10**). The method **100** includes, at **110**, installing the aquatic seat, at **120** adjusting the height of the aquatic seat, and at **130**, storing the aquatic seat.

[0064] Installing the aquatic seat, **110**, includes, at **112**, affixing at least one upper support bracket to an upper surface of the wall. At **114**, an attachment tab on an upper support of the aquatic seat assembly is inserted into the upper support bracket. At **116**, a lower attachment is rested on a side surface of the wall.

[0065] Adjusting that height of the aquatic seat, **120**, includes, at **122**, lifting the seat support and removing the pin from the slot. At **124**, the seat support is raised or lowered to a different slot. At **126** the pin is inserted into the slot and the seat support is lowered.

[0066] Storing the aquatic seat, **130**, includes tilting up the aquatic seat, at **132**, removing the aquatic seat from the wall by removing the attachment tabs from the upper support bracket at **134**, and leaving the upper support bracket on the wall at **136**.

[0067] While the above description provides examples of one or more apparatus, methods, or systems, it will be appreciated that other apparatus, methods, or systems may be within the scope of the claims as interpreted by one of skill in the art.

1. An aquatic seat assembly comprising:
a seat for supporting a user;
a seat support for attaching to and supporting the seat;
a wall support including a plurality of wall attachments spaced laterally apart for attaching to a surface of the wall; and
an adjustment mechanism for adjustably attaching the wall support to the seat support such that the height of the seat relative to the wall can be raised or lowered

2. An aquatic seat assembly comprising:
a seat for supporting a user; and
a seat support structure for attaching the seat to a wall, the seat support structure including an adjustment mecha-

nism for adjusting the height of the seat relative to the wall such that the seat can be raised or lowered.

3 The aquatic seat assembly of claim **2** wherein the seat support structure includes:

a seat support for attaching to and supporting the seat; and

a wall support for attaching to the wall;

wherein the adjustment mechanism adjustably attaches the wall support to the seat support such that the height of the seat may be adjusted by the user.

4. The aquatic seat assembly of claim **2**, wherein the seat is offset from the wall by an offset distance sized to fit legs of the user.

5. The aquatic seal assembly of claim **3**, wherein the wall support includes a plurality of upper wall attachments for attaching to an upper surface of the wall.

6. The aquatic seat assembly of claim **5**, wherein the will support includes a lower wall support having a plate for resting on a side surface of the wall.

7. The aquatic seat assembly of claim **5**, wherein the plurality of upper wall attachments are spaced apart at a lateral distance to resist torsion of the upper wall attachments.

8. The aquatic seat assembly of claim **7** wherein the lateral distance is greater than a width of the seal such that the upper wall attachments extend laterally beyond the side of the seat

9. The aquatic seat assembly of claim **7** wherein each of the plurality of upper wall attachments includes an attachment tab for slidably engaging with an upper support bracket, wherein the upper support bracket is affixed to the upper surface of the wall.

10. The aquatic seal assembly of claim **3**, where the adjustment mechanism includes at least one pin and the wall support includes a plurality of slots, wherein the pin matingly engages with the slot to keep the seat in place.

11. The aquatic seat assembly of claim **10** wherein the wall support includes a connecting member having the slots.

12. The aquatic seat assembly of claim **11** wherein the slots in the connecting member are used to attach the connecting member to an upper wall support and a lower wall support.

13. The aquatic seat assembly of claim **11**, wherein the connecting member includes a lock to stop the adjustment mechanism from separating from the wall support.

14. The aquatic seat assembly of claim **2** wherein the seat support structure is made of any one or more of a non-corroding material, a non-corroding coated material, or a composite plastic.

15. The aquatic seat assembly of claim **2** further comprising:

a foot rest below the seat for supporting feet of the user.

16. The aquatic seat assembly of claim **2** further comprising:

a cup holder attached to the wall support for holding an accessory.

17. The aquatic seat assembly of claim **2** wherein the height of the seat may be adjusted to a varying water level.

18. The aquatic seat assembly of claim **17** wherein the wall is a dock and the water is a body of water such as a lake, ocean, or a river.

19. A method for installing an aquatic seat to a wall, the method comprising:

affixing at least one upper support bracket to an upper surface of the wall;

inserting an attachment tab on an upper support of the aquatic seat assembly into the attachment bracket; and

resting a lower attachment on a side surface of the fixed wall.

20. The method of claim **19** further comprising:

lifting a seat support and removing a pin from a first slot;

raising or lowering the seat support to a second slot; and

inserting the pin into the second slot and lowering the seat support.

* * * * *