US009193428B2

(12) **United States Patent**
**Reed et al.**

(10) **Patent No.: US 9,193,428 B2**
(45) **Date of Patent: Nov. 24, 2015**

(54) **OAR CARRIER**

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( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/253,498**

(22) Filed: **Apr. 15, 2014**

(65) **Prior Publication Data**

US 2014/0312191 A1 Oct. 23, 2014

**Related U.S. Application Data**

(60) Provisional application No. 61/812,945, filed on Apr. 17, 2013.

(51) **Int. Cl.**

| | |
|---|---|
| ***A47F 5/00*** | (2006.01) |
| ***B63H 16/04*** | (2006.01) |
| ***B63B 35/73*** | (2006.01) |

(52) **U.S. Cl.**

CPC ..... ***B63H 16/04*** (2013.01); ***B63B 35/73*** (2013.01); *B63B 2035/734* (2013.01)

(58) **Field of Classification Search**

CPC ..... A47F 5/02; A47B 81/005; F41B 5/066; Y10S 224/916

USPC ..... 248/68.1; 114/343, 364; 211/60.1, 69.8, 211/69.9, 70, 70.6, 95; 440/104

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | | |
|---|---|---|---|---|
| 2,376,955 | A * | 5/1945 | Ball | 211/60.1 |
| 2,797,851 | A * | 7/1957 | Leake | 224/482 |
| 3,116,730 | A * | 1/1964 | Tingley | 124/24.1 |
| 4,352,337 | A * | 10/1982 | Wyoral | 114/343 |
| 4,453,490 | A * | 6/1984 | Miller | 114/364 |
| 4,777,900 | A | 10/1988 | Abeene et al. | |
| 4,863,082 | A | 9/1989 | Evans et al. | |
| 5,005,509 | A | 4/1991 | Williams | |
| 5,906,304 | A * | 5/1999 | Baldacchino | 224/406 |
| D441,653 | S | 5/2001 | LeRoux | |
| 6,386,377 | B1 * | 5/2002 | Yeoman | 211/60.1 |
| D643,991 | S | 8/2011 | Miller et al. | |
| D659,723 | S | 5/2012 | Hoover | |
| D702,550 | S | 4/2014 | Rendo | |
| 2001/0048053 | A1 | 12/2001 | Donoho | |
| 2010/0116946 | A1 | 5/2010 | Ginsberg | |
| 2011/0290952 | A1 | 12/2011 | Masters et al. | |
| 2014/0312191 | A1 | 10/2014 | Reed et al. | |

OTHER PUBLICATIONS

Non-final Office Action/Restriction issued for related Design U.S. Appl. No. 29/452,509 mailed on Dec. 15, 2014.

Notice of References cited for related Design U.S. Appl. No. 29/452,509 mailed on Dec. 15, 2014.

Non-final Office Action/Quayle Action issued for related Design U.S. Appl. No. 29/452,509 mailed on Feb. 2, 2015.

* cited by examiner

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(57) **ABSTRACT**

Oar carriers and methods of carrying oars, for example, rowing blades or sculls used by competitive rowing crews. The oar carriers include a panel, through holes in the panel sized to receive a shaft of an oar, and slots in a peripheral surface of the panel providing open access to the through holes to allow transfer of the shaft to the through hole. The slots may have a minimum width less than the diameter of the shaft of an oar, where the slot is made of a resilient material adapted to deflect and allow the diameter of the shaft to transfer to the through hole. One or more handles may be provided to the carrier. Methods of using the oar carrier and arrangements of oars and oar carriers are also disclosed.

**19 Claims, 13 Drawing Sheets**

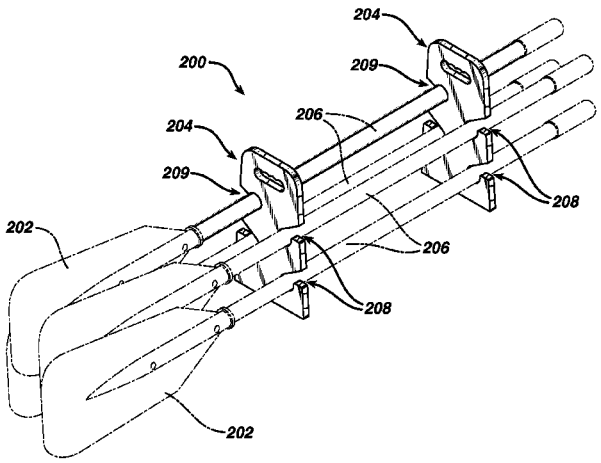


*FIG. 1*

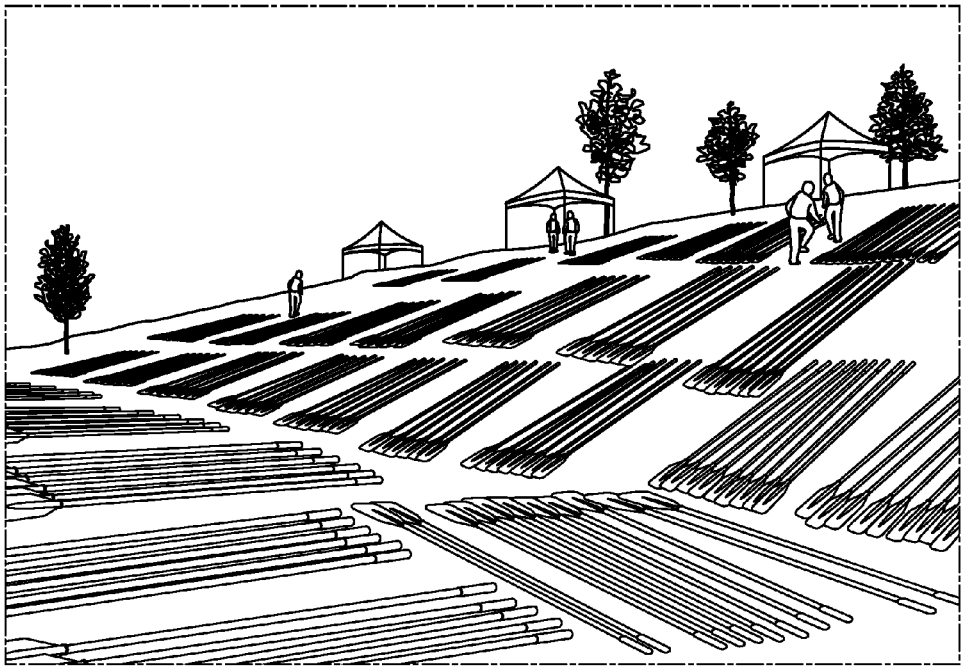


FIG. 2

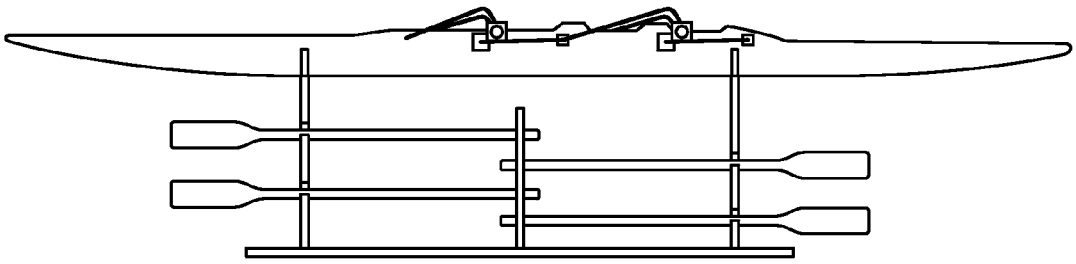


FIG. 3

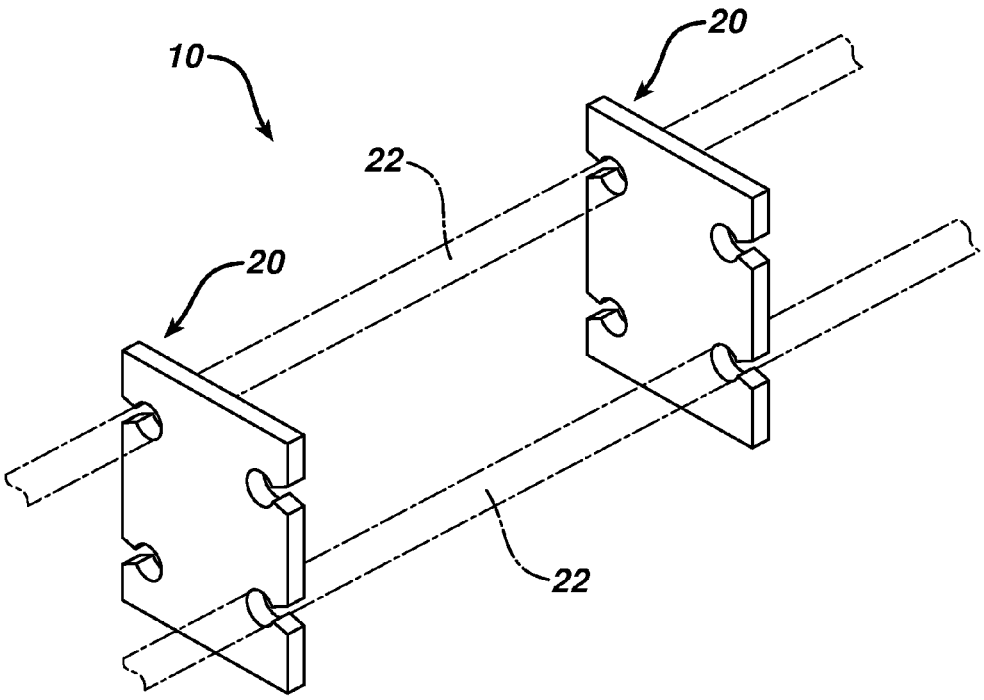


FIG. 6

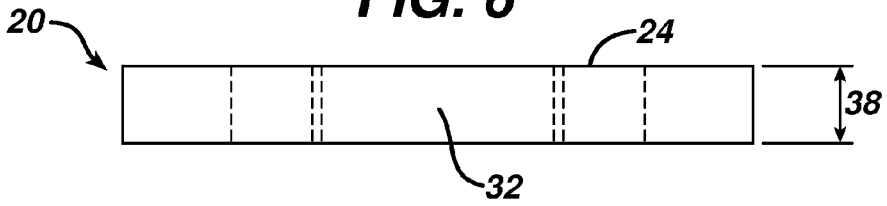



FIG. 4

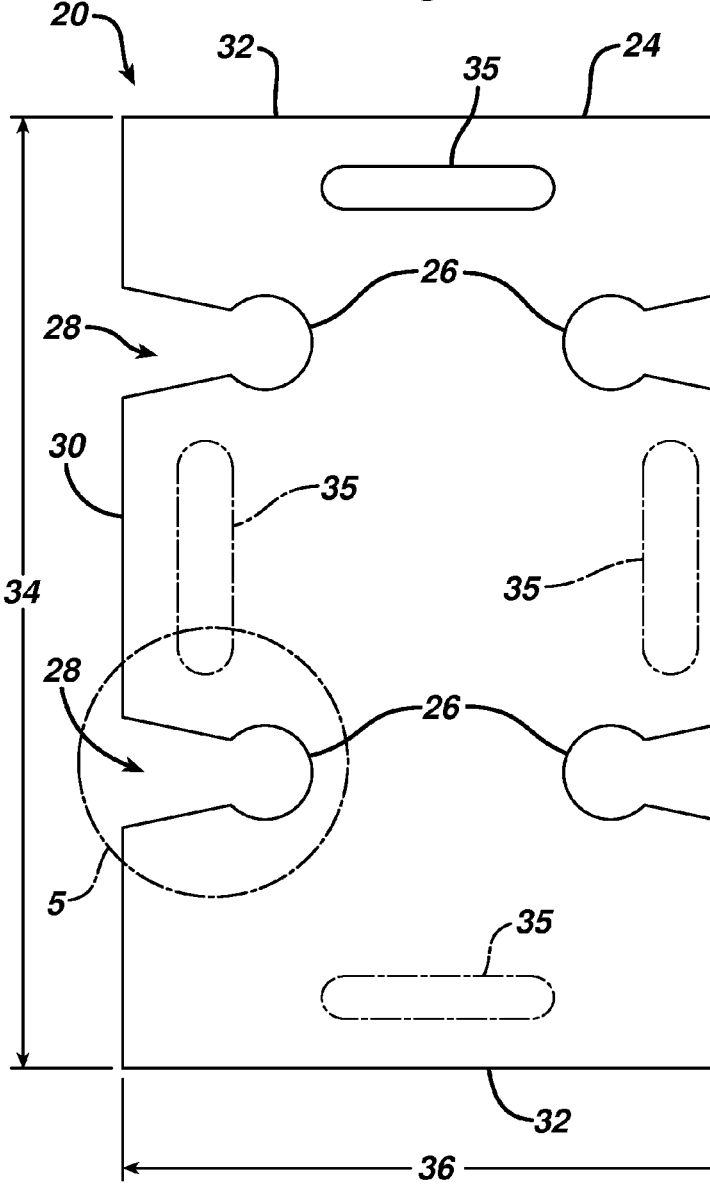
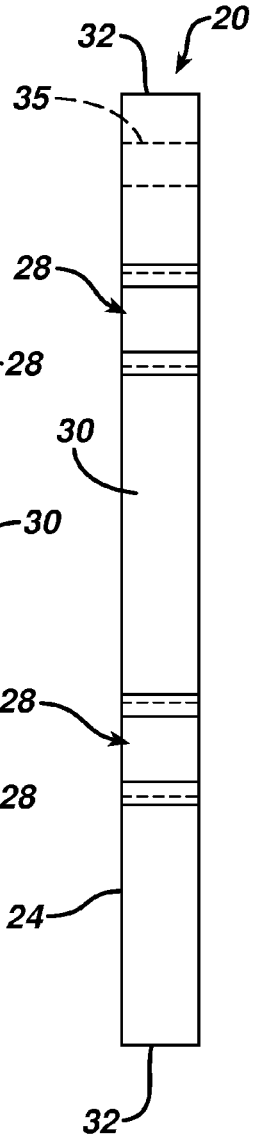



FIG. 5



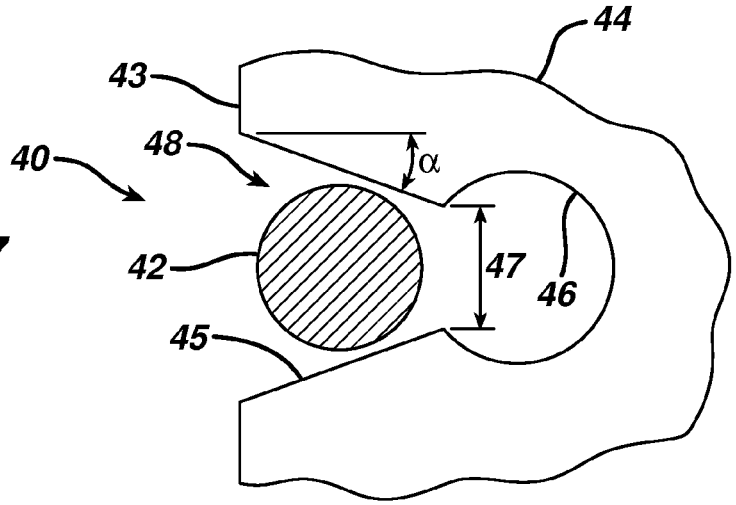



FIG. 7

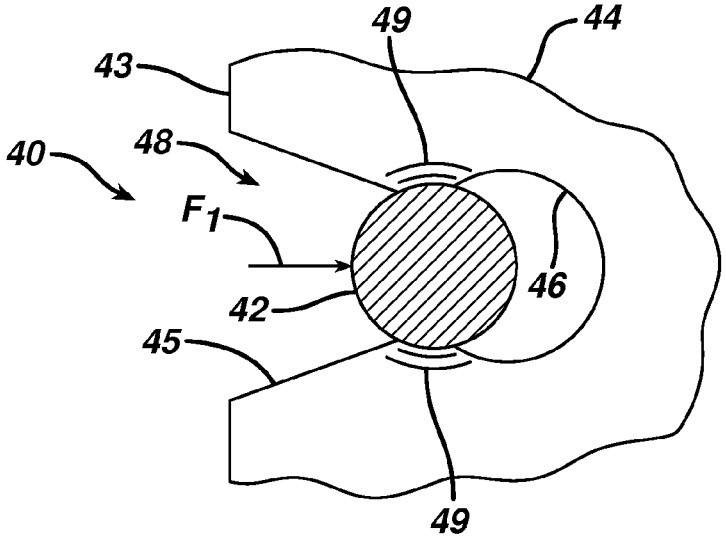



FIG. 8

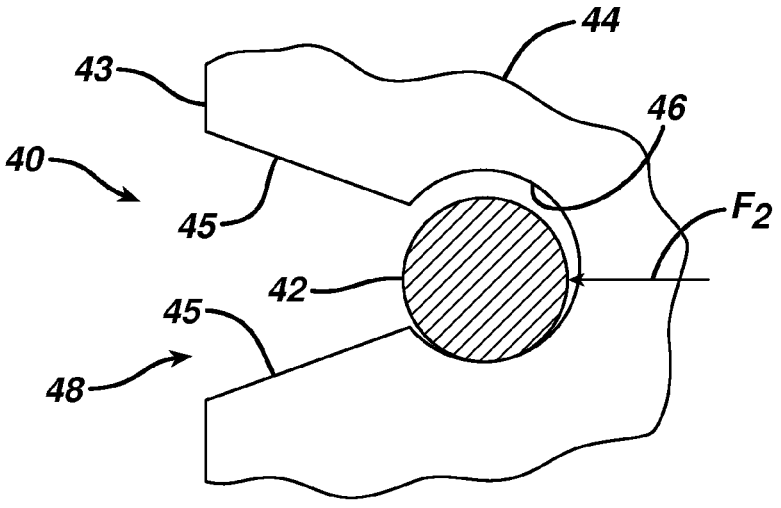



FIG. 9

FIG. 10

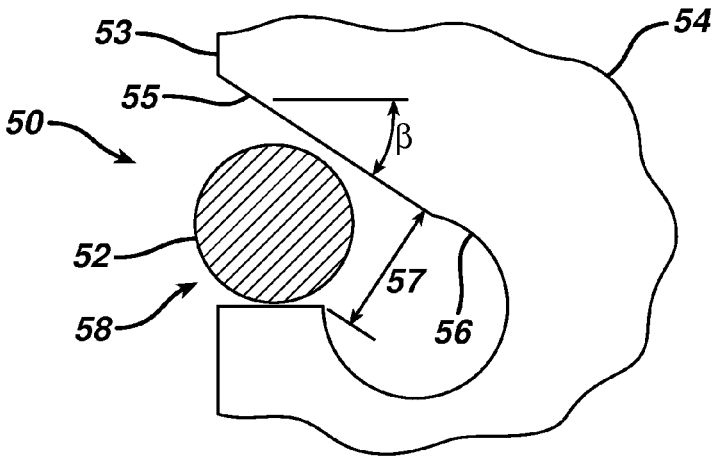



FIG. 11

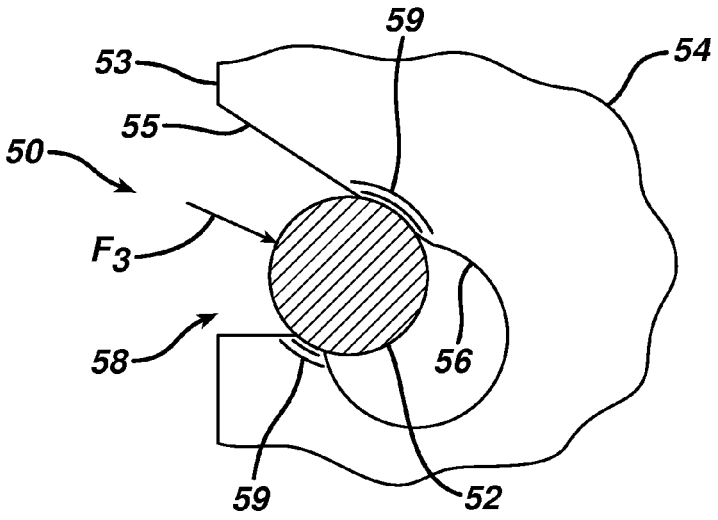
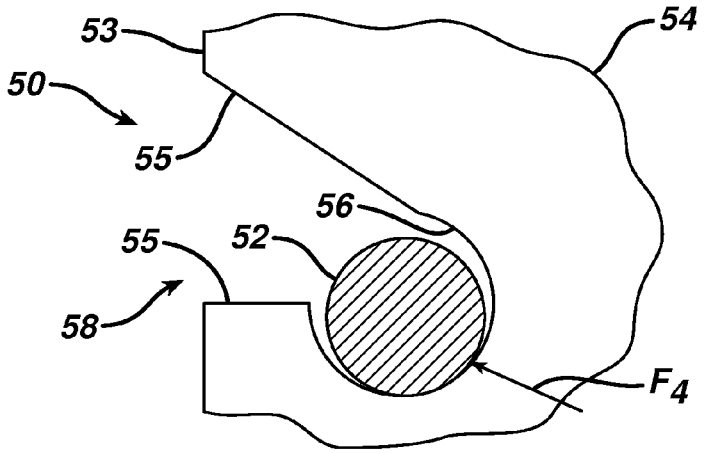



FIG. 12



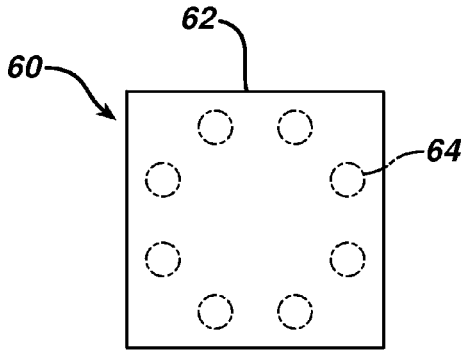



FIG. 13

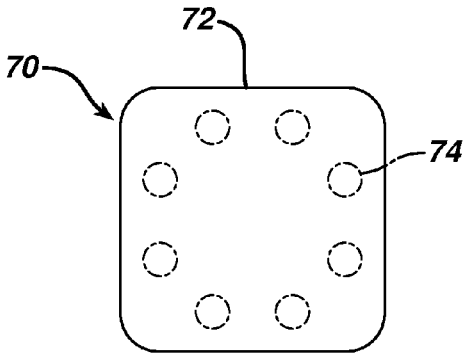



FIG. 14

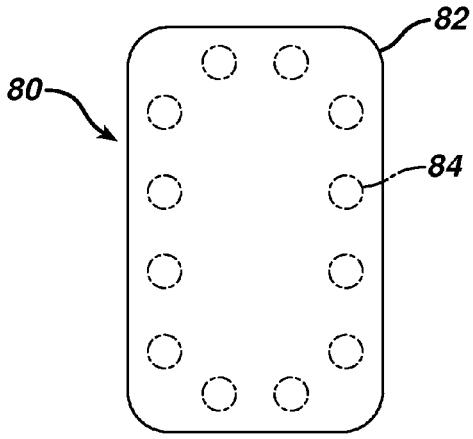



FIG. 15

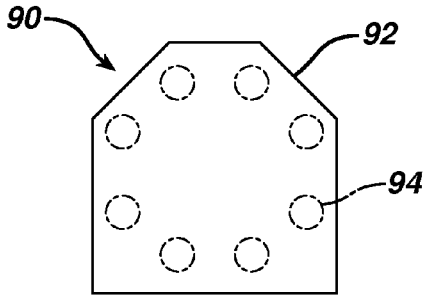



FIG. 16

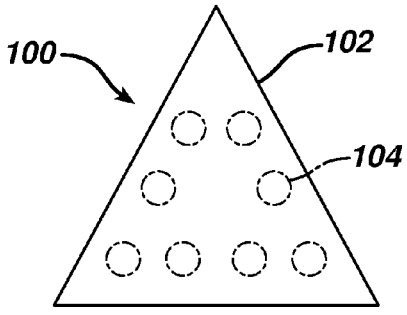



FIG. 17

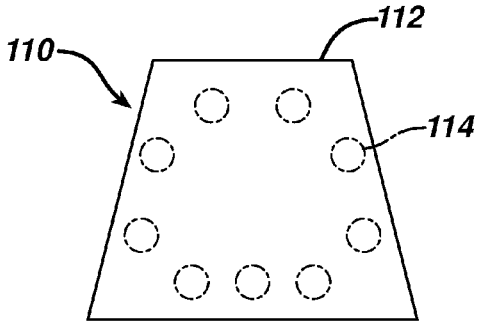



FIG. 18

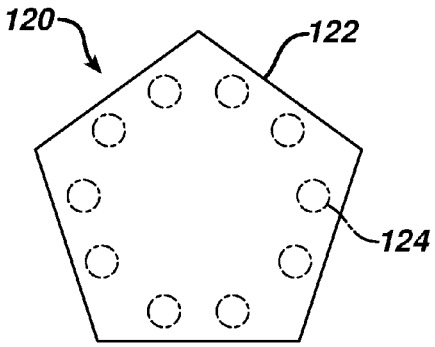



FIG. 19

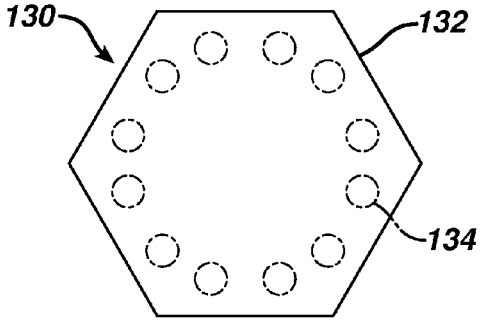



FIG. 20

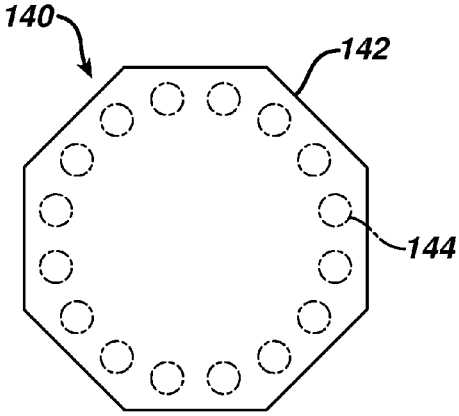



FIG. 21

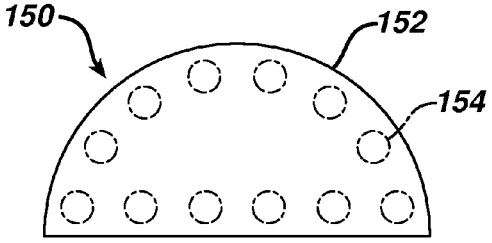



FIG. 22

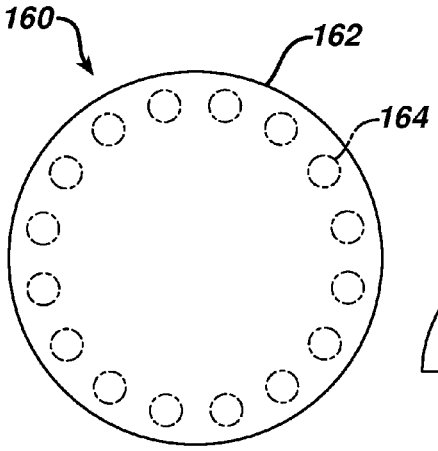



FIG. 23

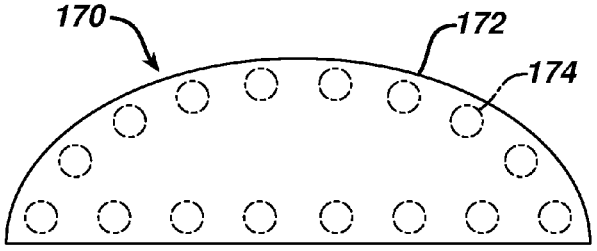



FIG. 24

FIG. 25

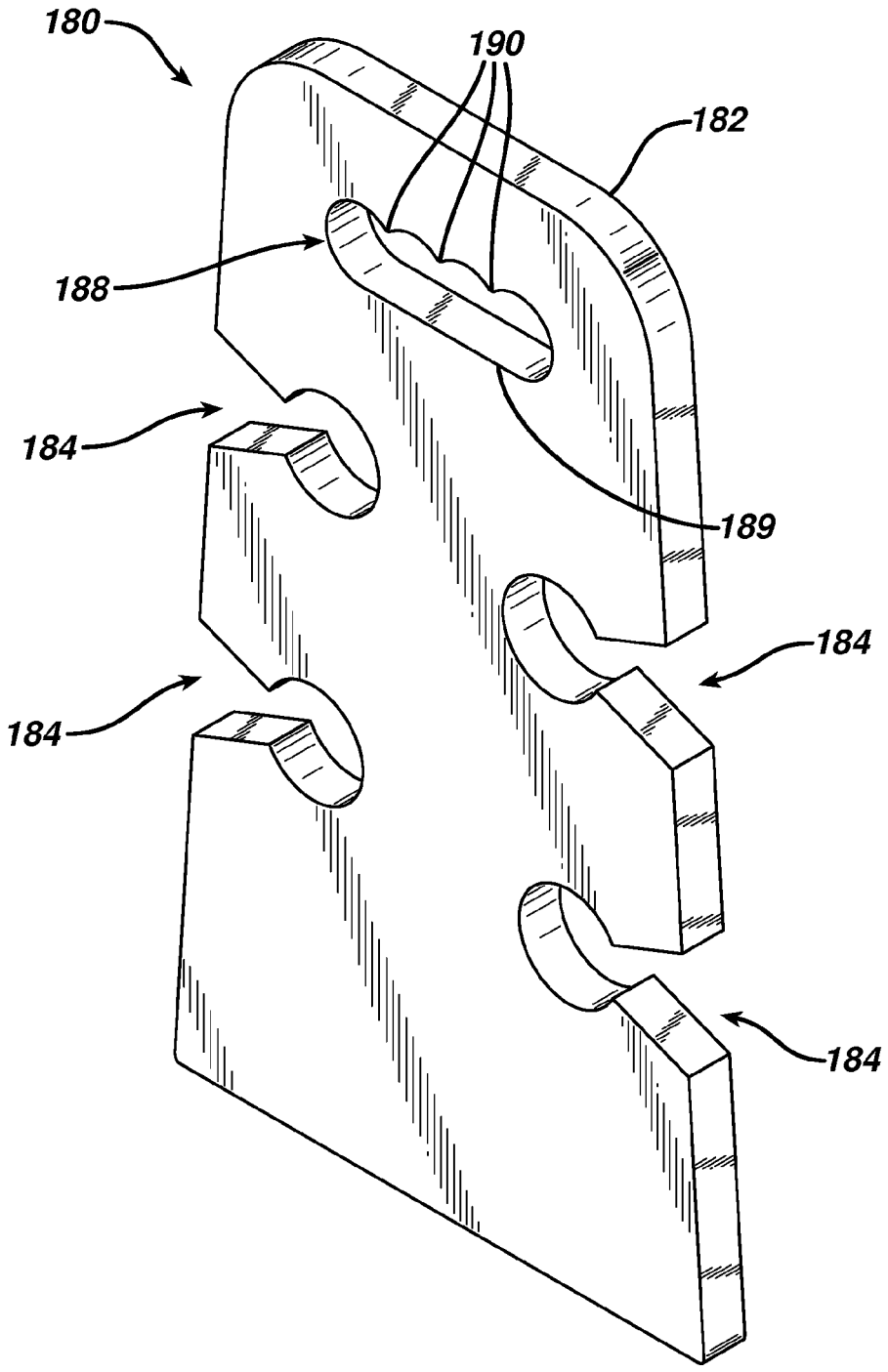


FIG. 29


FIG. 28


FIG. 26

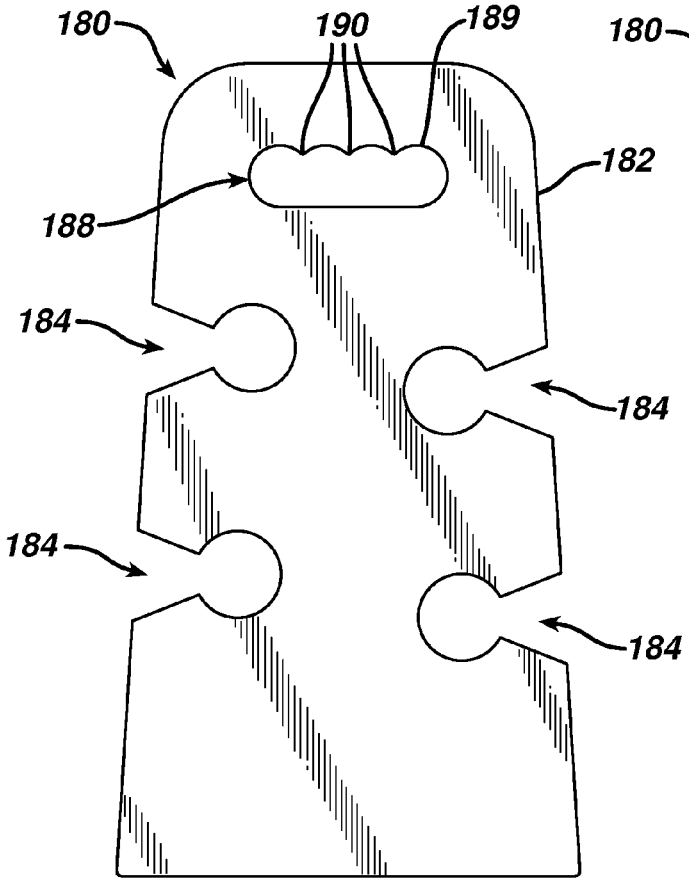



FIG. 27

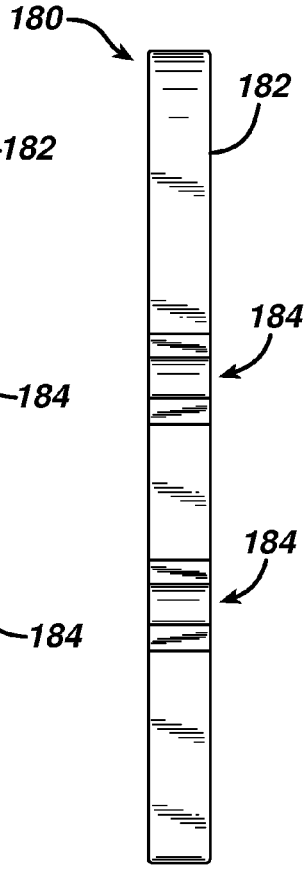



FIG. 30

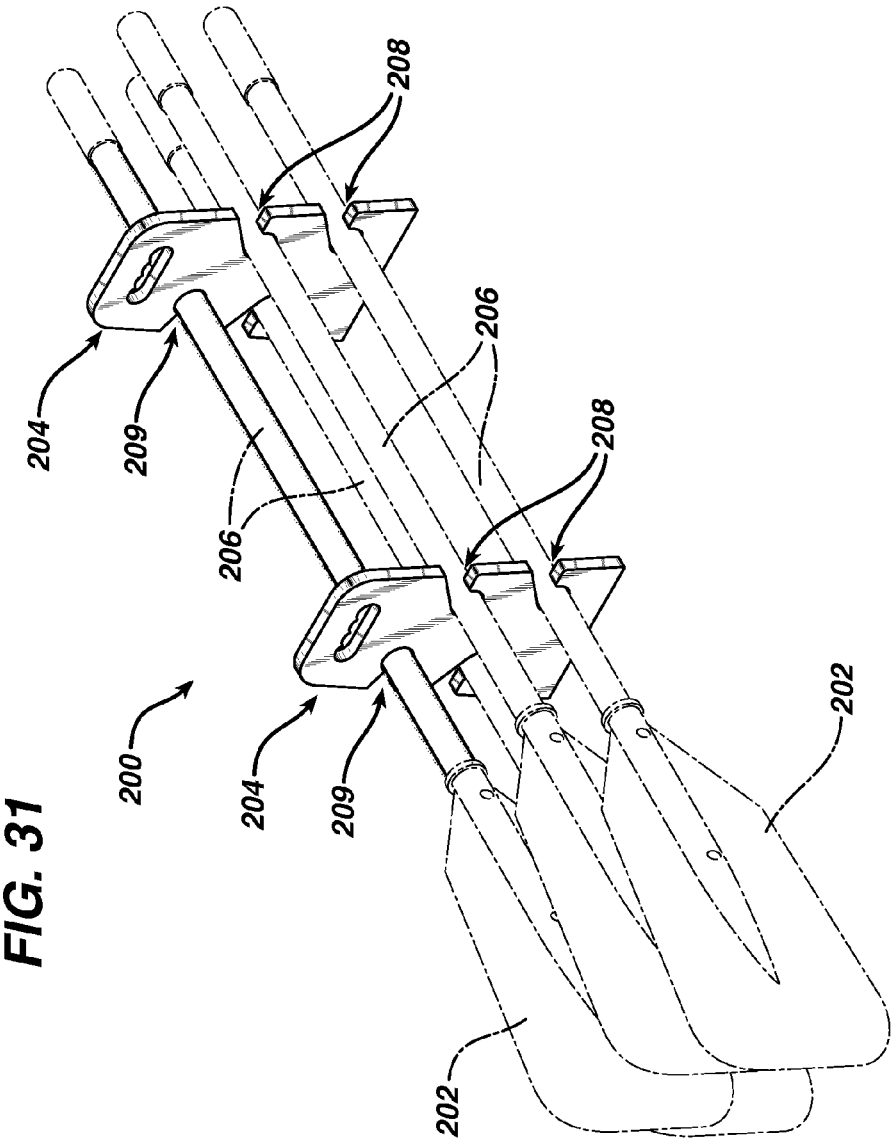



FIG. 31

FIG. 32

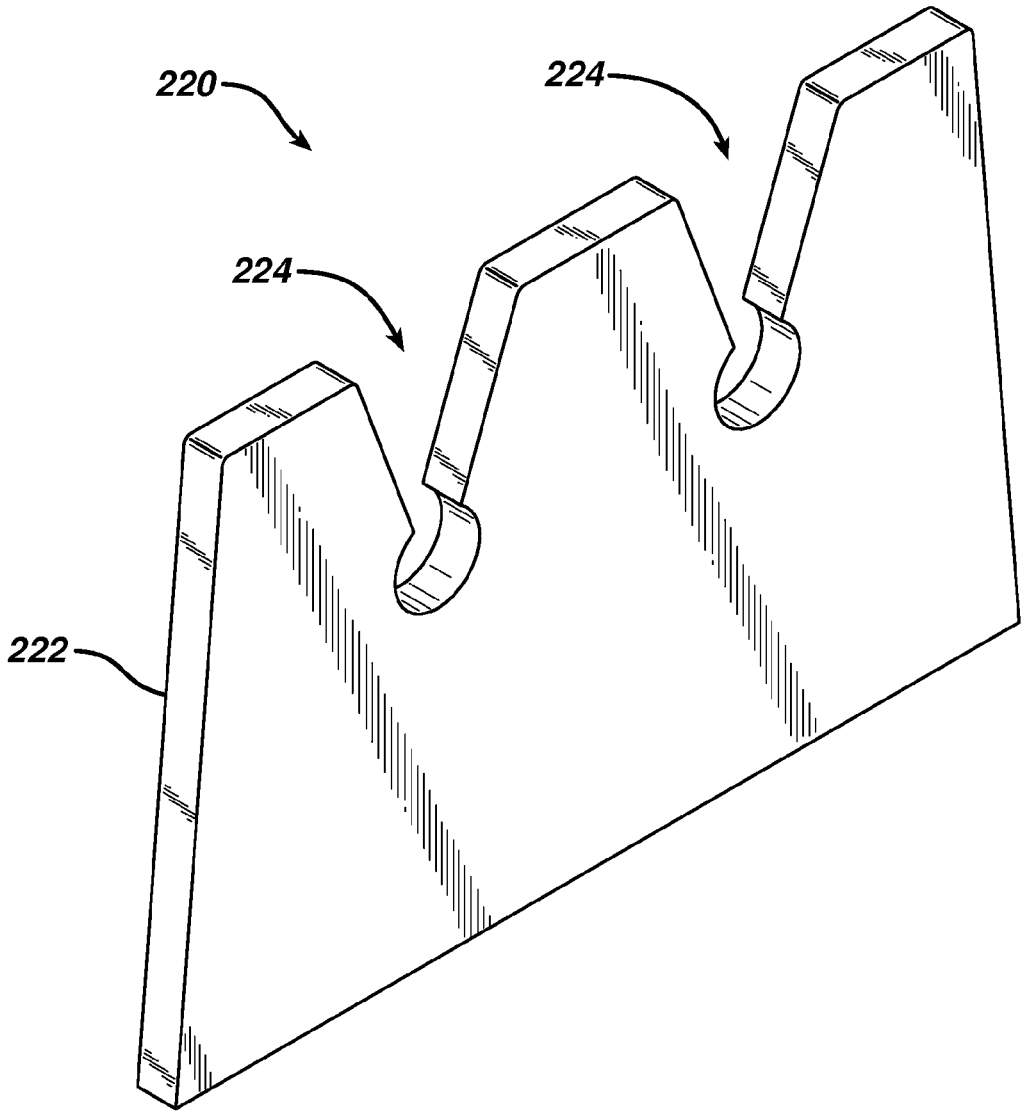


FIG. 35

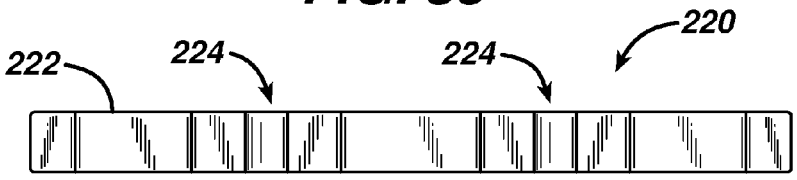



FIG. 33

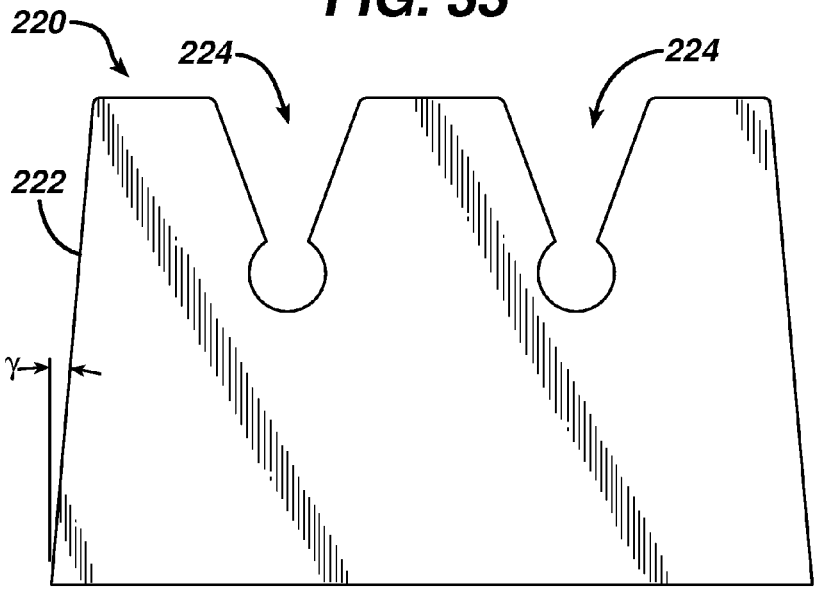
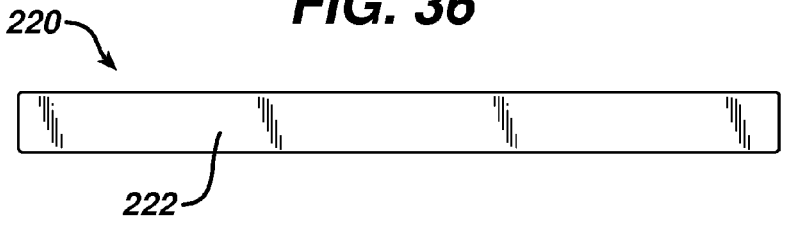



FIG. 34


FIG. 36



# OAR CARRIER

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority from U.S. Provisional Patent Application 61/812,945, filed on Apr. 17, 2013, the disclosure of which is included by reference herein in its entirety.

This application is related to U.S. Design patent application Ser. 29/452,509, filed on Apr. 17, 2013, the disclosure of which is included by reference herein in its entirety.

## BACKGROUND OF THE INVENTION

1. Technical Field

The present invention generally relates to carriers for rowing oars. More particularly, the present invention relates to carriers for rowing oars having slots adapted to receive the oars and through holes adjoining the slots adapted to receive and retain the oars, for example, for transport or storage.

2. Description of Related Art

In rowing, for example, in competitive rowing, for example, "crew," the participants propel their watercraft, for example, sculls or shells, with oars. As known in the art, the oars or "blades" typically include an elongated shaft having a somewhat flattened oar blade at one end and a handle at the other. Crew oars may typically be quite long, for example, about 250-300 centimeters [cm] (8 to 10 feet [ft]) in length, and may be made from wood or synthetic materials, for example, carbon fiber composite materials.

Due to their length, oars can often be quite unwieldy to handle, for example, to carry, or transport to and from the scull or to and from a rowing competition, that is, a regatta. In addition, when teams of crew members assemble at a regatta, the oars for each of the teams must be arranged and separated to provide each team ready access to their oars, while minimizing oar loss, misplacement, damage, and confusion with the oars of others. Images of collections of oars at regattas are exemplified by the colorful arrangement of oars shown, for example, in FIG. **1**.

In addition, oars can be expensive, especially, oars made from carbon fiber composites. Accordingly, though difficult to handle, there is a need to minimize or prevent damaging oars during transport, or during handling at such events as shown in FIG. **1**. In addition, as suggested by the image shown in FIG. **1**, if not damaged during transport or handling, oars can also be exposed to mud or wet grass that can also negatively impact the performance and/or appearance of the oar.

There exist means in the prior art for storing or displaying oars, for example, as shown by the oar display racks shown in FIG. **2**. However, the oar display racks shown in FIG. **2** provide little or no remedy to the issues of handling and storing oars that are exemplified by the oar handling and storage issues that characterize the groups of oars shown in FIG. **1**.

Accordingly, there is a need in the art for a means to facilitate the handling of oars, and a means for minimizing or preventing damaging oars either during transport, prior to use, or while in storage. Aspects of the present invention address these needs and other disadvantages of the prior art.

## SUMMARY OF THE INVENTION

Aspects of the present invention overcome the limitations of the prior art by providing carriers for oars, that is, oar carriers that provide versatile and convenient means to transport, store, and/or otherwise handle oars. Though aspects of the invention may be uniquely adapted to handle competitive crew oars, other aspects of the invention are adapted to handle any form of oar, including what may be considered "paddles" by some in the art. Aspects of the invention disclosed herein may be marketed under the trademark OARganizer™.

One embodiment of the invention is an oar carrier comprising or including a panel; at least one through hole in the panel, the at least one through hole sized to receive a shaft of an oar; and at least one slot in a peripheral surface of the panel, the at least one slot providing open access to the at least one through hole and the at least one slot adapted to receive the shaft of an oar and allow transfer of the shaft to the through hole. In one aspect, the at least one through hole in the panel may be a plurality of through holes in the panel and the at least one slot may be a plurality of slots.

In one aspect, the at least one slot in the peripheral surface of the panel comprises a plurality of slots in the peripheral surface of the panel, where each of the plurality of slots provides open access to one of the plurality of through holes and each of the plurality of slots adapted to receive the shaft of an oar and transfer the shaft to one of the plurality of through holes. The at least one through hole may be substantially circular through holes, for example, substantially circular through holes sized to receive the shaft of an oar.

In another aspect, the panel may comprise a resilient material, for example, a resilient foam rubber material.

In another aspect, the at least one slot in the peripheral surface of the panel may be a plurality of slots, where each of the plurality of slots have a minimum width less than a diameter of the shaft of the oar. In one aspect, the plurality of slots having a minimum width less than the diameter of the shaft of the oar may be adapted to deflect and allow the diameter of the shaft to transfer to the through hole.

Another embodiment of the invention is a method for handling, for example, carrying, at least one oar, but typically, a plurality of oars. The method comprises or includes: providing a plurality of oar carriers, for example, two oar carriers, as described above; inserting a shaft of the at least one oar into the at least one slot of each of the plurality of carriers; transferring the shaft of the at least one oar through the at least one slot into the at least one through hole in the panel to provide an assembly of the plurality of oar carriers and the at least one oar; and handling the assembly of the plurality of oar carriers and the at least one oar. In one aspect, inserting the shaft of at least one oar into the at least one slot of each of the plurality of carriers may be practiced by inserting the shafts of a plurality of oars into a plurality of slots of each of the plurality of carriers. In another aspect, transferring the shaft of the at least one oar through the at least one slot in to the at least one through hole in the panel may be practiced by deflecting a throat of the at least one slot of each of the oar carriers. This method may further include allowing the deflected throat of the at least one slot of each of the oar carriers to expand and retain the at least one oar in the oar carrier.

A further embodiment of the invention is an arrangement comprising or including: a plurality of oar carriers, for example, two oar carriers, as described above; and at least one oar, the at least one oar having a shaft positioned in a through hole in each of the plurality of oar carriers. In one aspect, the at least one oar comprises a plurality of oars, for example, four oars, wherein each of the plurality of oars having a shaft positioned in the at least one through hole of each of the two oar carriers.

A still further embodiment of the invention is an oar carrier comprising or including a panel at least partially comprising

a resilient material; a plurality of through holes in the panel, each of the plurality of through holes sized to receive a shaft of an oar; and a plurality of slots in a peripheral surface of the panel, each of the plurality of slots providing open access through a minimum width of each of the plurality of slots less than a diameter of the shaft of the oar, wherein a portion of the panel having the minimum width of each of the plurality of slots comprises the resilient material adapted to deflect and allow passage of the shaft of the oar to one of the plurality of through holes. In one aspect, the oar carrier further comprises at least one handle, for example, the handle may comprise a through hole in the panel. In another aspect, at least one of the pluralities of slots may have a geometry different from at least one other of the plurality of slots. The geometry different from at least one other of the plurality of slots may be adapted to facilitate handling of the carrier.

These and other aspects, features, and advantages of this invention will become apparent from the following detailed description of the various aspects of the invention taken in conjunction with the accompanying drawings

## BRIEF DESCRIPTION OF THE DRAWINGS

The subject matter, which is regarded as the invention, is particularly pointed out and distinctly claimed in the claims at the conclusion of the specification. The foregoing and other objects, features, and advantages of the invention will be readily understood from the following detailed description of aspects of the invention taken in conjunction with the accompanying drawings in which:

FIG. **1** is a representative view of a multitude of oars that may be seen at a rowing event according to the prior art, over which aspects of the present invention are improvements.

FIG. **2** is a representative view of an oar display rack according to the prior art, over which aspects of the present invention are improvements.

FIG. **3** is a front perspective view of an assembly of oar carriers according to one aspect of the present invention, the rear perspective view being a mirror image thereof.

FIG. **4** is a front elevation view of one of the oar carriers shown in FIG. **3**.

FIG. **5** is a right side elevation view of the oar carrier shown in FIG. **4**, the left side elevation view being a mirror image thereof.

FIG. **6** is a top plan view of the oar carrier shown in FIG. **4**, the bottom view being a mirror image thereof.

FIGS. **7** through **9** are detailed views of one slot and through whole geometry of the oar carrier shown in FIG. **4**, sequentially illustrating the engagement of an oar, according to one aspect of the invention.

FIGS. **10** through **12** are detailed views of another slot and through hole geometry of the oar carrier shown in FIG. **4**, sequentially illustrating the engagement of an oar, according to one aspect of the invention.

FIGS. **13** through **24** are plan views of various panel shapes according to aspects of the invention.

FIG. **25** is a front perspective view of an oar carrier according to another aspect of the invention.

FIG. **26** is a front elevation view of the oar carrier shown in FIG. **25**, the rear elevation view being a mirror image thereof.

FIG. **27** is a right side elevation view of the oar carrier shown in FIG. **26**.

FIG. **28** is a left side elevation view of the oar carrier shown in FIG. **24**.

FIG. **29** is a top plan view of the oar carrier shown in FIG. **26**.

FIG. **30** is a bottom view of the oar carrier shown in FIG. **26**.

FIG. **31** is a front perspective view of an assembly of oars and oar carriers according to another aspect of the invention.

FIG. **32** is a front perspective view of an oar carrier according to another aspect of the invention.

FIG. **33** is a front elevation view of the oar carrier shown in FIG. **32**, the rear elevation view being a mirror image thereof.

FIG. **34** is a right side elevation view of the oar carrier shown in FIG. **33**, a left side elevation view being a mirror image thereof.

FIG. **35** is a top plan view of the oar carrier shown in FIG. **33**.

FIG. **36** is a bottom view of the oar carrier shown in FIG. **33**.

## DETAILED DESCRIPTION OF THE INVENTION

FIG. **3** is a front perspective view of an assembly **10** of oar carriers **20** and oars **22** (shown partially in phantom) according to one aspect of the present invention. The rear perspective view of assembly **10** is a mirror image of the image shown in FIG. **3**. Though two representative oars and two representative oar carriers **20** are shown in FIG. **3**, according to aspects of the invention, assembly **10** may include one or more oars **22** and one or more oar carriers **20**. Oars **22** may be any oar or paddle, for example, oars **22** may be any oar or paddle used to propel a watercraft, such as, a boat or canoe. However, in one aspect, oars **22** may comprise rowing oars, for example, high performance rowing blades or sculls used by competitive rowing crews, for instance, those marketed by Crocker-USA [http://www.crokerusa.com/], and similar suppliers.

FIG. **4** is front elevation view of one of the oar carriers **20** shown in FIG. **3**. FIG. **5** is a right side elevation view of the oar carrier **20** shown in FIG. **3**. The left side elevation view of the oar carrier **20** is a mirror image of the image shown in FIG. **5**. FIG. **6** is a top plan view of the oar carrier **20** shown in FIG. **4**. The bottom view of the oar carrier **20** is a mirror image of FIG. **6**.

As shown in FIGS. **4**, **5**, and **6**, oar carrier **20** typically comprises a panel **24**, at least one through hole **26** in panel **24**, where the at least one through hole is sized to receive a shaft of an oar **22** (shown in phantom in FIG. **3**), and at least one slot or aperture **28** in a peripheral surface **30** and/or **32** of panel **24**. The at least one slot **28** typically provides open access to the at least one through hole **26**, and the at least one slot **28** is typically adapted to receive the shaft (not shown) of an oar **22** and allow transfer of the shaft to the through hole **26**.

As shown in FIGS. **4**, **5**, and **6**, panel **24** may typically comprise a parallelepiped body having a height **34**, a width **36**, and a thickness **38**. Though panel **24** shown in FIGS. **4**, **5**, and **6** is generally shown as a solid parallelepiped or solid regular hexahedron (that is, having six faces), panel **24** may comprises a solid or a hollow body—for example, having pores or perforations, such as, to reduce the weight of panel **24**. (As will be discussed below, panel **24** may assume a broad range of shapes while providing he desired function disclosed herein.) Panel **24** may comprise a board, a pane, a sheet, or a plate, for example, depending upon the type of material from which panel **24** is made.

According to aspects of the present invention, panel **24** may have height **34** ranging from about 6 inches to about 6 feet, but is typically about 12 inches to about 24 inches in height, for example, about 16.25 inches in height. Panel **24** may have width **36** ranging from about 3 inches to about 3 feet, but is typically about 6 inches to about 18 inches in width, for example, about 9.375 inches in width. Panel **24**

may have thickness **38** ranging from about 0.25 inches to about 6 inches, but is typically about 0.5 inches to about 2 in thickness, for example, about 1.25 inches in thickness.

As shown in FIG. **4**, the at least one through hole **26** in panel **24** typically comprises a plurality of through holes **26**, for example, 2 or more, or four or more through holes **26**. Through holes, **26** may be provided in a broad range of cross-sectional shapes, for example, oval, circular, polygonal, such as, square, or pentagonal. However, in the aspect shown in FIG. **4**, and in a manner most conducive to the circular cylindrical shape of oar shafts, through holes **26** may typically be circular cylindrical, for example, right circular cylindrical, that is, having a cylindrical axis substantially perpendicular to the plane of the surface of panel **24**.

The width or diameter of through holes **26** may vary broadly depending upon the diameter of the shaft of the oar being carried. For example, for a circular through hole **26**, the diameter of holes **26** may range from about 1 inch to about 3 inches, for instance, to be adapted to receive an oar having a typical shaft diameter ranging from about 1.25 inches to about 2.5 inches.

As shown in FIGS. **2**, **3**, and **4**, according to aspects of the invention, panel **24** includes and at least one, but typically, a plurality of slots **28** in peripheral surfaces **30** and **32**. In the aspect shown in FIGS. **2**, **3**, and **4**, slots **28** are positioned in lateral peripheral surfaces **30**, that is, in the left-hand and in right-hand peripheral surfaces of panel **24**, as shown in FIG. **4**. However, in one aspect, slots **28** may also be positioned in peripheral surfaces **32**, that is, in the top and/or bottom peripheral surfaces **32** of panel **24**, as shown in FIG. **4**.

As also shown in FIG. **4**, panel **24** of carrier **20** may include one or more handles **35** adapted to receive the hand of a user and facilitate grasping and carrying carrier **20**. As shown in FIG. **4**, handle **35** may be an elongated through hole or slot in panel **35** positioned and shaped to receive the fingers of the hand of a user. As also shown in FIG. **4**, the one or more handles **35** (shown in phantom) may be positioned at both ends or at either end of panel **24** (for example, adjacent peripheral surfaces **32**). The one or more handles **35** (shown in phantom) may also be positioned at both sides or at either side of panel **24** (for example, adjacent to peripheral surfaces **30**).

In one aspect, panels **24**, and any panel disclosed herein, may be metallic or non-metallic, for example, panel **24** may be made from one or more conventional structural materials, for example, steel, aluminum, or titanium and the like. However, for ease of handling, panel **24** may typically made from a non-metallic material, for example, a rubber, a plastic, or even wood, typically, a hardwood. In one aspect, the material from which panel **24** is made may be a resilient material, for example, a flexible or elastic material which allows at least some deformation to occur under load without permanently damaging or distorting the shape of the panel. In one aspect, panel **24** may be made from one or more of the following plastics: a polyamide (PA), for example, nylon; a polyethylene (PE); a polypropylene (PP); a polyester (PE); a polytetrafluoroethylene (PTFE); an acrylonitrile butadiene styrene (ABS); a polycarbonate (PC); or a polyvinylchloride (PVC), among other plastics. In another aspect, panel **24** may be made from one or more of the following rubbers: a natural polymer, such as, polyisoprene rubber, or a synthetic polymer, such as, a neoprene, a thermoplastic elastomer, a thermoplastic rubber, and a polyvinyl chloride, or an ethylene propylene diene monomer (EPDM) rubber, and the like.

In one aspect, panel **24** may be made from a foam-based material, for example, foam rubber or expanded rubber, such as, neoprene foam, polyurethane foam, or latex foam; or a foam plastic, such as, polyethylene foam. In one aspect, the foam-based material may comprise an open-cell foam or a closed-cell foam, such as, a mini-cell foam rubber. In another aspect, the foam material may be a cross-linked foam rubber, for example, a cross-linked, mini-cell foam rubber, such as, ethylene vinyl acetate (EVA) foam rubber, or its equivalent.

FIGS. **7** through **9** are detailed views of one through hole and slot geometry **40** that may be used for holes **26** and slots **28** of the oar carrier shown in FIG. **4**. FIGS. **7** through **9** sequentially illustrate the engagement of an oar shaft **42** (shown in cross section) of an oar with a peripheral side **43** of a panel **44** according to one aspect of the invention. As shown in FIGS. **7**, **8**, and **9**, hole and slot geometry **40** includes a through hole **46** and a slot **48** in peripheral side **43** of panel **44**. As shown, hole **46** may typically be larger in width or diameter than the outside width or outside diameter of oar shaft **42**. Through hole **46** may have the features and characteristics of hole **26** shown and described with respect to FIGS. **4** through **6**.

As shown in FIG. **7**, according to one aspect of the invention, slot **48** in panel **44** may have at least one tapering side **45**, for example, two tapering sides **45**, that converge to a narrower opening or throat **47**. The angle $\alpha$ of the taper of sides **45**, for example, with respect to the horizontal plane, for instance, as defined by the plane of the bottom surface of the panel **44**, may range from about 5 degrees to about 50 degrees; however, the angle $\alpha$ may typically range from about 15 to about 30 degrees. In one aspect, the width of throat **47** may be less than or greater than the outside width or diameter of the shaft **42** of the oar.

In one aspect, as shown in FIG. **7**, the width of throat **47** may be less than the width or diameter of the shaft **42** of the oar. According to this aspect, the difference in width of throat **47** may be used as a means for retaining oar shaft **42** in hole **46**. As shown most clearly in FIG. **8**, the width of throat **47** may be less than the outside diameter of oar shaft **42** where oar shaft **42** cannot pass through throat **47** without some deflection of at least one of the extremities of throat **47**. As noted earlier, in one aspect of the invention, panels **24** and **44** may be made from a resilient material, for example, from foam rubber. As shown in FIGS. **8** and **9**, the resiliency (or the ability to deform elastically) of panel **24** allows the oar shaft **42** (typically comprising a relatively rigid material) when under load (for example, as indicated by force $F_1$ on oar shaft **42** in FIG. **8**) to deflect the extremities of throat **47**, as indicated by strain marks **49**. The deflection of panel **24** under load allows oar shaft **42** to pass through throat **47** and into hole **46**, as shown in FIG. **9**. Accordingly, in one aspect of the invention, as shown in FIG. **9**, oar shaft **42** may be retained in hole **46** by the restriction of the narrow throat **47**, unless a force $F_2$ (similar or greater in magnitude to force $F_1$) is exerted upon oar shaft **42** and again the extremities of throat **47** are deflected (not shown in FIG. **9**, but similar to that shown in FIG. **8** by strain marks **49**.)

FIGS. **10** through **12** are detailed views, similar to FIG. **7** through nine, of another through hole and slot geometry **50** that may be used for holes **26** and slots **28** of the oar carrier shown in FIG. **2**. FIGS. **10** through **12** also sequentially illustrate the engagement of an oar shaft **52** (shown in cross section) of an oar with a peripheral side **53** of a panel **54** according to another aspect of the invention. As shown in FIGS. **10**, **11**, and **12**, hole and slot geometry **50** includes a through hole **56** and a slot **58** in a peripheral side **53**. As shown, hole **56** may typically be larger in width or diameter than the outside width or outside diameter of oar shaft **52**.

Through hole **56** may have the features and characteristics of hole **26** shown and described with respect to FIGS. **4** through **6**.

As shown in FIG. **11**, according to one aspect of the invention, slot **58** in panel **54** may have at least one tapering side **55**, for example, one tapering side **55** and one non-tapering side **55**, that converge to a narrower opening or throat **57**. The angle β of taper of sides **55**, for example, with respect to the horizontal plane, for instance, as defined by the plane of the bottom surface of the panel **54**, may range from about 5 degrees to about 75 degrees; however, the angle β may typically range from about 30 to about 60 degrees, for example, about 35 degrees. In one aspect, the width of throat **57** may be less than or greater than the outside width or diameter of the shaft **52** of the oar.

In one aspect, as shown in FIG. **12**, the width of throat **57** may be less than the width or diameter of the shaft **52** of the oar. According to this aspect, the difference in width of throat **57** may be used as a means for retaining oar shaft **52** in hole **56**. As shown most clearly in FIG. **12**, the width of throat **57** may be less than the outside diameter of oar shaft **52** where oar shaft **52** cannot pass through throat **57** without some deflection of at least one of the extremities of throat **57**. As noted earlier, in one aspect of the invention, panels **24** and **44** may be made from a resilient material, for example, foam rubber. As shown in FIGS. **11** and **12**, the resiliency (or the ability to deform elastically) of panel **54**, allows the oar shaft **52** (typically comprising a relatively rigid material) when under load (for example, as indicated by force $F_3$ on oar shaft **52** in FIG. **11**) to deflect the extremities of throat **57**, as indicated by strain marks **59**. The deflection of panel **24** under load allows oar shaft **52** to pass through throat **57** and into hole **56**, as shown in FIG. **12**. Accordingly, in one aspect of the invention, as shown in FIG. **12**, oar shaft **52** may be retained in hole **56** by the restriction of the narrow throat **57**, unless a force $F_4$ (similar or greater in magnitude to force $F_3$) is exerted upon oar shaft **52** and again the extremities of throat **57** are deflected (not shown in FIG. **12**, but similar to that shown in FIG. **11** by strain marks **59**.)

Through, in one aspect of the invention, substantially the entire panels **44** and **55** in FIGS. **7** through **9** and FIGS. **10** through **12**, respectively, may comprise a resilient material, in another aspect, only portions of panels **44** and **55** may comprise a resilient material. For example, in one aspect, only the portions of the panels about throats **47** and **57** may comprise a resilient material, where the portions around the throats **47** and **57** may deflect or deform to allow passage of oar shaft **42** and **52**, respectively. In one aspect, one or more portions of panels **44** and **55** may comprise a relatively non-resilient material, for example, a rigid plastic, a wood, or a metal, and the portions about the throats **47** and **57** and/or the through holes **46** and **56**, and/or the slots **48** and **58** may comprise a resilient material, such as, a foam rubber. In one aspect, the resilient material about throats **47** and **57** may be provided by inserts made of resilient material, for example, inserts that may be replaceable, for instance, due to damage or excessive wear. In addition, the resilient material, for example, about throats **47** and **57**, may be provided by inserts made of resilient material, for example, inserts that may be replaceable, for instance, due to damage or excessive wear. In another aspect, holes **46** and **56** and slots **48** and **58** may be provided by inserts of one material, for example, a more resilient material, and the remainder of panels **44** and **54** may comprise another material, for example, a less resilient material. Again, the inserts comprising holes **46** and **56** and slots **48** and **58** may be replaceable, for instance, due to damage or excessive wear. In another aspect, a replaceable insert of resilient material may be provided for when a material of a different resilience is desired, for instance, to vary the insertion and/or removal force required, for example, having an insert with more resilience when the oar carrier **20** is used by children and an insert of less resilience when the oar carrier **20** is used by adults.

FIGS. **13** through **23** are plan views of various panel shapes according to aspects of the invention. According to aspects of the invention, the type and location of slots and holes about the panels shown, for example, hole and slot arrangements **40** and **50** shown in FIGS. **7** through **9** and **10** through **12**, respectively, may vary broadly. However, in FIGS. **13** through **23** hole and slot arrangements are shown in phantom by representative holes.

FIG. **13** illustrates an oar carrier **60** having a square panel **62** having one or more hole and slot arrangements **64**. FIG. **14** illustrates an oar carrier **70** having a square panel **72** with rounded corners having one or more hole and slot arrangements **74**. FIG. **15** illustrates an oar carrier **80** having a rectangular panel **82** having sharp or rounded corners and having one or more hole and slot arrangements **84**. FIG. **16** illustrates an oar carrier **90** having a pentagonal panel **92** having sharp or rounded corners and having one or more hole and slot arrangements **94**. FIG. **17** illustrates an oar carrier **100** having a triangular panel **102** having sharp or rounded corners and having one or more hole and slot arrangements **104**. FIG. **18** illustrates an oar carrier **110** having a trapezoidal panel **112** having sharp or rounded corners and having one or more hole and slot arrangements **114**. FIG. **19** illustrates an oar carrier **120** having a pentagonal panel **122** having sharp or rounded corners and having one or more hole and slot arrangements **124**. FIG. **20** illustrates an oar carrier **130** having a hexagonal panel **132** having sharp or rounded corners and having one or more hole and slot arrangements **134**. FIG. **21** illustrates an oar carrier **140** having an octagonal panel **142** having sharp or rounded corners and having one or more hole and slot arrangements **144**. FIG. **22** illustrates an oar carrier **150** having a semi-circular panel **152** having one or more hole and slot arrangements **154**. FIG. **23** illustrates an oar carrier **160** having a circular panel **162** having one or more hole and slot arrangements **164**. FIG. **24** illustrates an oar carrier **170** having a semi-elliptical panel **172** having one or more hole and slot arrangements **174**. The oar carriers shown in FIGS. **13** through **24** may comprise one or more of the materials disclosed herein and may conform to the range of dimensions disclosed for other aspects of the invention disclosed herein. Those of skill the art will recognize that the shapes of the panels disclosed herein are not exhaustive. Further shapes for panels may be provided, though not shown, according to aspects of the present invention.

FIG. **25** is a front perspective view of an oar carrier **180** according to another aspect of the invention. As shown in FIG. **25**, oar carrier **180** includes a panel **182** and a plurality of hole and slot arrangements **184**. However, any hole and slot arrangement disclosed herein may be used for oar carrier **180**, in the aspect shown, oar carrier **180** includes a hole and slot arrangement similar to hole and slot arrangement **50** shown in FIGS. **10** through **12**. Oar carrier **180** may comprise any one or more of the materials disclosed herein and may conform to the range of dimensions disclosed for other aspects of the invention disclosed herein. For example, in one aspect, oar carrier **180** may be made from a mini-cell polyethylene foam rubber; oar carrier **180** may have a thickness ranging from about 1 inch to about 2 inches, for example, about 1.25 inches; a height ranging from about 10 inches to about 24 inches, for example, about 16.5 inches; and a width at its base ranging from about 6 inches to about 18 inches, for example, about 9.375 inches.

FIG. **26** is a front elevation view of the oar carrier **180** shown in FIG. **23**, while the rear elevation view of oar carrier **180** is substantially a mirror image of the illustration shown in FIG. **26**. FIG. **27** is a right side elevation view and FIG. **28** is a left side elevation view of oar carrier **180** shown in FIG. **26**. FIG. **29** is a top plan view of oar carrier **180** and FIG. **30** is a bottom view of oar carrier **180** shown in FIG. **26**.

As also shown in FIGS. **25** through **30**, the oar carrier **180** typically includes one or more handles **188** to facilitate handling and carrying of oar carrier **180**. In this aspect, handle **188** comprises an elongated through hole **189** in panel **182** having rounded ends and a plurality of gripping ridges **190**. The gripping ridges are positioned and adapted to engage the fingers of the user or handler of carrier **180**. Though in the aspect shown in FIG. **26** handle **188** comprises a through hole in panel **182**, for example, a through hole in a resilient material, according to one aspect, handle **188** may comprise an insert in panel **182** of a different material from the material of another portion or the remainder of panel **182**. For example, handle **188** may comprise an insert comprising a less resilient or a rigid material to provide at least some structural strength or wear resistance to the handle **188**. For instance, in one aspect, panel **182** may comprise a foam rubber material and handle **188** may comprise a rigid plastic insert, for example, an ABS plastic insert, adapted to conform to the foam rubber material while providing the desired handle function to oar carrier **180**.

FIG. **31** is a front perspective view of an assembly **200** of oars **202** and oar carriers **204** according to another aspect of the invention. As shown, as is typical of aspects of the invention, oars **202** include oar shafts **206**, wherein oar shafts **206** engage slot and hole arrangements **208** in oar carriers **202** as shown and described herein. It is believed that the assembly **200** shown in FIG. **31** clearly illustrates the benefits and advantages of aspects of the present invention, for example, especially compared to the typical handling of oars represented in FIG. **1**.

As suggested by FIG. **31**, oar carriers **204** (and any oar carriers disclosed herein) provide a compact arrangement for carrying, storing, and otherwise handling oars **202**, for example, by one or two handlers grasping and lifting assembly **200** by the handles in carriers **204**. In another aspect, assembly **200** may be handled by one or more handlers grasping the shafts **206** of one or more oars **202** shown in FIG. **29**. For example, the shafts **206** of oars **202** in assembly **200** may be used for grasping and carrying assembly **200**. In one aspect, the slots and through holes in oar carriers **204** may be adapted to facilitate handling of assembly **200** by shafts **206**. For example, at least one of the slots and through holes in carriers **204** used to engage an oar **202** having a shaft **206**, which may be used to carry assembly **200**, may comprise the through hole and slot geometry **40** shown in FIGS. **7** through **9**, as indicated by slot and hole arrangements **209** in oar carriers **202** in FIG. **31**. The through hole and slot geometry **40** of one or more slot and hole arrangements **209** may be more conducive to retaining a shaft **206** when carried by a handler or user, for instance, may retain oar shaft **206** more snugly or securely and minimize disengagement in comparison to through hole and slot geometry **50** shown in FIGS. **10** through **12**, which may not be as conducive to retaining a shaft **206** in assembly **200** when carried by a handler.

In addition, aspects of the invention may minimize the contact with and damage from adjacent surfaces, such as, muddy ground or wet grass, to avoid damaging, soiling, or otherwise detracting from the performance, appearance, and cleanliness of oars **202**. Further benefits and advantages of aspects of the present invention will be apparent to those of skill in the art, including crew members, their coaches, equipment managers, and regatta organizers, and the like.

FIG. **32** is a front perspective view of an oar carrier **220** according to another aspect of the invention. FIG. **33** is a front elevation view of the oar carrier **220** shown in FIG. **32**, while the rear elevation view of oar carrier **220** is substantially a mirror image of the illustration shown in FIG. **33**. FIG. **34** is a right side elevation view, while the left side elevation view of oar carrier **220** is substantially a mirror image of the illustration shown in FIG. **34**. FIG. **35** is a top plan view of oar carrier **220** and FIG. **36** is a bottom view of oar carrier **220** shown in FIG. **33**.

As shown in FIGS. **32** through **36**, oar carrier **220** includes a panel **222** and a plurality of hole and slot arrangements **224**. Though any hole and slot arrangement disclosed herein may be used for oar carrier **220**, in the aspect shown, oar carrier **220** includes a hole and slot arrangements similar to hole and slot arrangement **40** shown in FIGS. **7** through **9**. Oar carrier **220** may comprise any one or more of the materials disclosed herein and may conform to the range of dimensions disclosed for other aspects of the invention disclosed herein. For example, in one aspect, oar carrier **220** may be made from a mini-cell polyethylene foam rubber; oar carrier **220** may have a thickness ranging from about 1 inch to about 2 inches, for example, about 1.25 inches; a height ranging from about 6 inches to about 24 inches, for example, about 8 inches; and a width at its base ranging from about 6 inches to about 24 inches, for example, about 12.5 inches.

The panel **222** of oar carrier **220** typically comprises a trapezoidal shape, for example, having a taper angle $\gamma$. Taper angle $\gamma$ from about 1 degree to about 45 degrees, but may typically range from about 3 degrees to about 10 degrees, for example, about 5 degrees. Though oar carrier **220** is shown having two hole and slot arrangements **224**, oar carrier **220** may have one or more hole and slot arrangements **224**, for example, three (3) hole and slot arrangements **224** or four (4) hole and slot arrangements **224**, or more. Regardless of the number, hole and slot arrangements **224** may be evenly spaced along a side of panel **222**.

Though not shown in FIGS. **32** through **36**, the oar carrier **220** may include one or more handles (not shown) to facilitate handling and carrying of oar carrier **220**, for example, handles located and shaped in a fashion similar to handle **188** shown in FIG. **26**. In addition, in one aspect, any handles in oar carrier **220** may comprise an insert in panel **222** of a different material from the material of another portion or the remainder of panel **222**.

It is also conceived that aspects of the invention may be used or adapted for any item having an elongated structure, for example, any item having an elongated shaft, rod, or pole. For example, it is envisioned that aspects of the invention may also be used or adapted for sporting goods, for example, baseball bats, fishing rods, golf clubs, ice hockey sticks, field hockey sticks, lacrosse sticks, tennis rackets, javelins, pole vaulting poles, and the like; or tools, for example, shovels, hoes, rakes, axes, picks, mallets, adzes, saws, and the like. In one aspect, a sporting goods carrier, for instance, a baseball bat carrier is provided as disclosed herein for an oar. In another aspect, a tool carrier, for example, a shovel carrier, is provided as disclosed herein for an oar. Other uses and applications of aspects of the invention will be envisioned by those of skill in the art, and these other uses and applications are understood to be within the purview of the inventions recited herein and claimed below.

While several aspects of the present invention have been described and depicted herein, alternative aspects may be affected by those skilled in the art to accomplish the same

objectives. Accordingly, it is intended by the appended claims to cover all such alternative aspects as fall within the true spirit and scope of the invention.

The invention claimed is:

**1**. An oar carrier and at least one oar comprising:

a panel;

at least one through hole in the panel, the at least one through hole sized to receive a shaft of the at least one oar; and

at least one slot in a peripheral surface of the panel, the at least one slot providing open access to the at least one through hole and the at least one slot having a minimum width less than a diameter of the shaft of the at least one oar and adapted to receive the shaft of the at least one oar and allow transfer of the shaft to the through hole.

**2**. The oar carrier and the at least one oar as recited in claim **1**, wherein the at least one through hole in the panel comprises a plurality of through holes in the panel.

**3**. The oar carrier and the at least one oar as recited in claim **2**, wherein the at least one slot in the peripheral surface of the panel comprises a plurality of slots in the peripheral surface of the panel, each of the plurality of slots providing open access to one of the plurality of through holes and each of the plurality of slots having a minimum width less than a diameter of the shaft of the at least one oar and adapted to receive the shaft of the at least one oar and allow transfer of the shaft to one of the plurality of through holes.

**4**. The oar carrier and the at least one oar as recited in claim **1**, wherein the at least one through hole comprises at least one substantially circular through hole.

**5**. The oar carrier and the at least one oar as recited in claim **4**, wherein the at least one substantially circular through hole is sized to receive the shaft of the at least one oar.

**6**. The oar carrier and the at least one oar as recited in claim **1**, wherein the panel comprises a resilient material.

**7**. The oar carrier and the at least one oar as recited in claim **6**, wherein the resilient material comprises a resilient foam rubber material.

**8**. The oar carrier and the at least one oar as recited in claim **1**, wherein a material of the at least one slot comprises a resilient material, wherein the at least one slot having a minimum width less than the diameter of the shaft of the oar is adapted to deflect and allow the diameter of the shaft to transfer to the at least one through hole.

**9**. The oar carrier and the at least one oar as recited in claim **1**, wherein the oar carrier further comprises at least one handle, wherein the at least one handle comprises a through hole in the panel.

**10**. A method for handling at least one oar, the method comprising:

providing a plurality of oar carriers and at least one oar as recited in claim **1**;

inserting a shaft of the at least one oar into the at least one slot of each of the plurality of carriers;

transferring the shaft of the at least one oar through the at least one slot having a minimum width less than a diameter of the shaft of the at least one oar into the at least one through hole in the panel to provide an assembly of the plurality of oar carriers and the at least one oar; and

handling the assembly of the plurality of oar carriers and the at least one oar.

**11**. The method as recited in claim **10**, wherein inserting the shaft of at least one oar into the at least one slot of each of the plurality of carriers comprises inserting the shafts of a plurality of oars into a plurality of slots of each of the plurality of carriers.

**12**. The method as recited in claim **10**, wherein transferring the shaft of the at least one oar through the at least one slot into the at least one through hole in the panel comprises deflecting a throat of the at least one slot of each of the oar carriers.

**13**. The method as recited in claim **12**, wherein the method further comprises allowing the deflected throat of the at least one slot of each of the oar carriers to expand and retain the at least one oar in the oar carrier.

**14**. The method as recited in claim **10**, wherein handling the assembly comprises carrying the assembly.

**15**. An oar carrier and at least one oar comprising:

a panel at least partially comprising a resilient material;

a plurality of through holes in the panel, each of the plurality of through holes sized to receive a shaft of the at least one oar; and

a plurality of slots in a peripheral surface of the panel, each of the plurality of slots providing open access through a minimum width of each of the plurality of slots less than a diameter of the shaft of the at least one oar, wherein a portion of the panel having the minimum width of each of the plurality of slots comprises the resilient material adapted to deflect and allow passage of the shaft of the at least one oar to one of the plurality of through holes.

**16**. The oar carrier and at least one oar as recited in claim **15**, wherein the oar carrier further comprises at least one handle.

**17**. The oar carrier and at least one oar as recited in claim **16**, wherein the at least one handle comprises a through hole in the panel.

**18**. The oar carrier and at least one oar as recited in claim **15**, wherein at least one of the plurality of slots comprises a geometry different from at least one other of the plurality of slots.

**19**. The oar carrier and at least one oar as recited in claim **18**, wherein the geometry different from at least one other of the plurality of slots is adapted to facilitate handling of the carrier.

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