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(54) **SUSPENDED WATERCRAFT SEAT SYSTEM**

AUFGEHÄNGTES SITZSYSTEM EINES WASSERFAHRZEUGS

SYSTÈME DE SIÈGE D'EMBARCATION SUSPENDU

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(73) Proprietor: **The Coleman Company, Inc.**

Wichita, KS 67219 (US)

(72) Inventors:

- **HARING, Steve**
Wichita, KS 67205 (US)
- **WILLEY, Cynthia**
Superior, CO 80027 (US)
- **WEBB, Darin**
Denver, CO 80202 (US)
- **NOACK, Christine**
Denver, CO 80203 (US)
- **BIRDSONG, Nicole**
Denver, CO 80218 (US)
- **PETERSON, Michael**
Park City, KS 67219 (US)
- **RIPPY, Rob**
Wichita, KS 67226 (US)
- **BROCKEL, Mike**
Wichita, KS 67235 (US)

• **CULP, Yiyun**

Wichita, KS 67230 (US)

• **LUO, Rui**

Bel Aire, KS 67226 (US)

• **LOOSLIE, Rick**

Cheney, KS 67025 (US)

• **TREFZ, Gabe**

Andover, KS 67002 (US)

• **DICKERSON, Tanner**

Newton, KS 67114 (US)

• **NICHOLSON JR., David**

Wichita, KS 67204 (US)

• **YOUNGERS, Daniel**

Viola, KS 67149 (US)

• **LEVINE, Myles**

Wichita, KS 67226 (US)

(74) Representative: **Porta & Consulenti Associati
S.p.A.**

Via Vittoria Colonna, 4

20149 Milano (IT)

(56) References cited:

DE-U1-202005 006 765	US-A- 4 124 910
US-A- 5 975 004	US-A1- 2002 175 542
US-A1- 2011 018 319	US-A1- 2012 017 821
US-A1- 2012 017 821	US-A1- 2013 074 760
US-A1- 2013 074 760	US-B1- 8 393 288
US-B1- 8 961 253	

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Description

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] This application claims priority of and the benefit of U.S. Provisional Application No. 62/185,865, entitled "SUSPENDED WATERCRAFT SEAT SYSTEM," filed June 29, 2015, (Attorney Docket No. Orgsport-2-6954).

FIELD OF THE INVENTION

[0002] The present disclosure relates to watercraft, and more specifically to a seat system for a kayak or canoe.

BACKGROUND

[0003] Water sports are popular recreational activities enjoyed by many. Kayaking and canoeing in particular are quite popular. While inflatable and hard-sided watercraft are both known and used, inflatable watercraft have become increasingly popular due to their ease of use, transportability and lower cost. Traditionally, the weight of the user is supported on the floor of the inflatable watercraft. As a result, the bottom of the watercraft tends to bow outward into the water and creates drag as well as interfering with the watercraft tracking. The suspended seat system of the present invention supports enough of the user's weight to alleviate the bowing out of the watercraft floor, thus reducing drag and improving tracking. Even for hard-sided watercraft, the suspended seat system will provide additional comfort for the user. Examples of known seat system are disclosed by documents US 8393288B1, DE 202005006765U, US 8961253B1, US 2002/0175542A1, US 2012/0017821A1.

BRIEF SUMMARY

[0004] The following presents a simplified summary of some embodiments of the invention in order to provide a basic understanding of the invention. This summary is not an extensive overview of the invention. It is not intended to identify key/critical elements of the invention or to delineate the scope of the invention. Its sole purpose is to present some embodiments of the invention in a simplified form as a prelude to the more detailed description that is presented later.

[0005] In some embodiments, a seat system for watercraft is provided including a seat structure having a bottom and a backrest, a support system having at least two straps, one supporting the seat bottom and one supporting the backrest, the straps include connecting mechanisms which are removably connected to a track on the inner side of each watercraft sidewall for alleviating at least a portion of a user's weight from the watercraft floor when the user is sitting in the seat structure.

[0006] The seat system may further include a plurality of connection points along the watercraft sidewall track

for removable attachment of strap connecting mechanisms to allow for multiple positioning of the seat between the stern and aft sections of the watercraft.

[0007] In some embodiments, the straps of the support system pass through the seat material such that the seat is movable along the strap for adjustment by the user.

[0008] For a fuller understanding of the nature and advantages of the present invention, reference should be made to the ensuing detailed description and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] A more complete understanding of the present invention, and the attendant advantages and features thereof, will be more readily understood by reference to the following detailed description when considered in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective view of a watercraft including a seat system of the present invention;

FIG. 2 is a perspective view of the seat system shown in FIG. 1; and

FIG. 3 is a cut-away side view of the seat system of FIG. 1.

DETAILED DESCRIPTION

[0010] In the following description, various embodiments are described. For purposes of explanation, specific configurations and details are set forth in order to provide a thorough understanding of the embodiments. However, it will also be apparent to one skilled in the art that the present invention may be practiced without the specific details. Furthermore, well-known features may be omitted or simplified in order not to obscure the embodiment being described.

[0011] Referring now to the drawings, in which like reference numerals represent like parts throughout the several views, FIGS. 1 and 2 show a watercraft W having suspended seat system 10. Suspended seat system 10 includes seat structure 20, support system 30 and track 40. The watercraft is a conventional watercraft of standard construction such as a kayak or canoe. The watercraft may be either inflatable or hard-sided, but is preferably inflatable. The general configuration and manufacture of inflatable and hard-sided kayaks and canoes is known and thus specific configuration details of the watercraft are omitted in order to not obscure the embodiments being described.

[0012] Seat structure 20 includes seat base 22 and backrest 24 as shown in FIG. 2. Preferably, backrest 24 also includes side flaps 26 for added comfort and adjustability. Seat base 22 and backrest 24 may be a single piece or may be separate pieces connection together, preferably with a flexible hinge section between the piec-

es to allow the forming of a traditional seat with a bottom and a backrest. The specific construction of the seat is not the focus of the present invention and conventional seat construction for watercraft, particularly inflatable watercraft, can be used and will not be described in detail here. Conventional materials such as nylon, polyester, mesh and other watersport fabrics may be used. The seat structure 20 may include padding for comfort, as well as additional pockets and other storage trappings.

[0013] Support system 30 includes at least four points of support provided from side straps 32 and bottom straps 34. Preferably, support system 30 includes six points of support including two from side straps 32 and four from bottom straps 34. Most preferably, support system 30 includes eight points of support including two from side straps 32 and six from bottom straps 34. Additional points of support could be included by adding additional straps on either the seat base 22, backrest 24 or side flaps 26. Straps are preferably made of polypropylene, nylon or polyester but could be made of other durable yet flexible materials known in the industry. Straps may be permanently secured to seat structure 20 by stitching, but other means of securing such as rivets, welding, adhesive and the like are also contemplated. Straps 32, 34 may include free ends and secured ends such that straps are of shorter lengths of material which are secured to seat base and backrest, respectively, at secured ends and extend outward, terminating in free ends. Preferably, straps 32, 34 comprise a single length of material with only two free ends per strap such that straps extend across the width of seat base and backrest and a central portion of strap is secured to the respective seat base or backrest, leaving the free ends unconnected. Most preferably, straps 32, 34 comprise longer lengths of material which pass through channels created in seat or seat cover (as shown in FIG. 2) such that seat structure 20 is movable and adjustable over at least a portion of strap, with free ends extending outward.

[0014] Free ends of straps 32, 34 include connecting mechanisms 36. Connecting mechanisms are preferably hooks for attachment to track 40. Connecting mechanism 36 for strap 32 may be the same as or different from the connecting mechanism for strap 34. Connecting mechanisms are preferably made of ABS plastic, acetel, injection molded nylon, aluminum, steel or other materials known and used in the industry which are strong and durable. Optionally, connecting mechanism may include a locking clip or a carabiner clip.

[0015] Track 40 receives connecting mechanisms 36 and supports seat structure 20 via straps 32, 34. Track 40 includes connecting rail 42, base rail 44 which preferably extend along a portion of the length of watercraft W on the inside wall both on the starboard and port sides. Base rail 44 is secured to the inside wall of watercraft W, preferably by stitching onto the cover of an inflatable watercraft, although other methods of permanent attachment which are known in the industry may be used. For hard-sided watercraft, base rail 44 may be secured by

riveting, welding, use of adhesives and the like. Connecting rail 42 is secured to base rail 44. For inflatable watercraft, connecting rail 42 is preferably stitched to base rail 44. For hard-sided watercraft, connecting rail 42 may be secured to base rail 44 by stitching, riveting, welding, use of adhesives and the like.

[0016] Connecting rail 42 comprises a plurality of connection points 46 that are preferably evenly spaced along the length of connecting rail 42 for receiving connecting mechanisms 36. Preferably, connection points 46 comprise loops of the rail material which are created by stitching separate sections approximately every 2,54 cm (one inch) along connecting rail 42 to allow the connecting mechanism 36 to be securely retained therein and to allow for multiple adjustment of seat location between the stern and aft portions of the watercraft. Connection points 46 may be spaced closer or farther apart from each other than one inch, depending on the size of the connecting mechanisms 36 that are used. The key is to size connection points 46 to accommodate the connecting mechanisms 36 snugly for a secure, yet removable, fit. While only a single connecting rail 42 on each side is preferred, and all connecting mechanisms 36 from all straps 32, 34 are secured thereto, it is possible to have two separate connecting rails on each side, one located above the other, such that connecting mechanisms from strap 32 and connecting mechanisms from strap 34 secure to different rails. Both connecting rail 42 and base rail 44 are preferably made of flexible and durable material such as polypropylene, nylon, polyester and the like.

[0017] In a preferred embodiment, the sides of an inflatable watercraft will deflect slightly outward when the seat system is in use such that seat system 10 will take a portion of the weight load from the watercraft floor. The seat does not need to be fully suspended once a user is seated and their body weight is applied, but may rest gently on the watercraft floor. Seat system 10 supports enough user weight between the floor and sides to alleviate the bowing normally present in inflatable watercraft where the user sits on the watercraft floor, thus reducing drag and improving tracking. For hard-sided watercraft, seat system 10 provides increased comfort for the user.

Claims

1. A seat system for watercraft, comprising:

a seat structure (20) comprising a base (22) and a backrest (24);
a support system (30) attached to the seat structure (20) comprising at least a first strap (34) attached to the base (22), a second strap (32) attached to the backrest (24) and a third strap (34) attached to the base (22), the first, second and third straps each having at least one free end attached to separate connecting mechanisms (36);

wherein said first strap (34) and third strap (34) pass through the base (22) and said second strap (32) passes through the backrest (24) to allow movement of the seat structure along at least a portion of the first and second straps,

a track (40) located on the inner side walls of a watercraft, the first, second and third straps being removably connected to the track at a plurality of connection points (46) by a corresponding plurality of said connecting mechanisms (36).

2. The seat system of claim 1, wherein said connecting mechanisms (36) are hooks.

3. The seat system of claim 1, wherein said connection points (46) are loops of webbing strap.

4. The seat system according to claim 1, wherein each of the plurality of connection points (46) is shaped and sized to receive and snugly retain a connecting mechanism (36).

5. The seat system according to claim 1, wherein the track (40) comprises connecting rail (42) and base rail (44) wherein the connecting rail (42) is secured to the base rail (44) and wherein the base rail (44) is configured to be secured to the inside wall of the watercraft.

6. The seat system according to claim 5, wherein the connecting rail (42) comprises a plurality of connection points (46) that are preferably evenly spaced along the length of connecting rail (42) for receiving the connecting mechanisms (36); said connection points (46) comprising loops of the rail material which are created by stitching separate sections approximately every 2,54 cm (one inch) along connecting rail (42) to allow the connecting mechanism (36) to be securely retained therein and to allow for multiple adjustment of seat location between the stern and aft portions of the watercraft.

Patentansprüche

1. Sitzsystem für Wasserfahrzeuge, umfassend:

eine Sitzstruktur (20) umfassend eine Basis (22) und eine Rückenlehne (24);
ein an der Sitzstruktur (20) angebrachtes Trägersystem (30) umfassend mindestens einen ersten an der Basis (22) befestigten Gurt (34), einen zweiten an der Rückenlehne (24) befestigten Gurt (32) und einen dritten an der Basis

(22) befestigten Gurt (34), wobei der erste, zweite und dritte Gurt jeweils mindestens ein freies Ende aufweisen, das an getrennten Verbindungsmechanismen (36) befestigt ist;

wobei der erste Gurt (34) und der dritte Gurt (34) durch die Basis (22) verlaufen und der zweite Gurt (32) durch die Rückenlehne (24) verläuft, um eine Bewegung der Sitzstruktur entlang mindestens eines Teils des ersten und des zweiten Gurtes zu ermöglichen, wobei jeder der ersten, zweiten und dritten Gurte zwei freie Enden aufweist und jedes freie Ende an einem Verbindungsmechanismus (36) befestigt ist; eine an den inneren Seitenwänden eines Wasserfahrzeugs befindliche Führungsbahn (40), wobei der erste, zweite und dritte Gurt lösbar mit der Führungsbahn an einer Vielzahl von Verbindungspunkten (46) durch eine entsprechende Vielzahl von Verbindungsmechanismen (36) verbunden sind.

2. Sitzsystem nach Anspruch 1, wobei die Verbindungsmechanismen (36) Haken sind.

3. Sitzsystem nach Anspruch 1, wobei die Verbindungspunkte (46) Schlaufen eines Gewebegurtes sind.

4. Sitzsystem nach Anspruch 1, wobei jeder der Vielzahl von Verbindungspunkten (46) so geformt und dimensioniert ist, dass er einen Verbindungsmechanismus (36) aufnehmen und gut festhalten kann.

5. Sitzsystem nach Anspruch 1, wobei die Führungsbahn (40) eine Verbindungsschiene (42) und eine Grundschiene (44) umfasst, wobei die Verbindungsschiene (42) an der Grundschiene (44) befestigt ist und wobei die Grundschiene (44) dafür konfiguriert ist, an der Innenwand des Wasserfahrzeugs befestigt zu werden.

6. Sitzsystem nach Anspruch 5, wobei die Verbindungsschiene (42) eine Vielzahl von Verbindungspunkten (46), die vorzugsweise gleichmäßig über die Länge der Verbindungsschiene (42) beabstandet sind, zur Aufnahme der Verbindungsmechanismen (36) umfasst; die Verbindungspunkte (46) Schlaufen des Schienenmaterials umfassen, die durch Nähen getrennter Abschnitte ungefähr alle 2,54 cm (1 Zoll) entlang der Verbindungsschiene (42) erzeugt werden, um zu ermöglichen, dass der Verbindungsmechanismus (36) sicher darin gehalten wird und um eine mehrfache Einstellung der Sitzposition zwischen Bug- und Heckteil des Wasserfahrzeugs zu ermöglichen.

Revendications

1. Système de siège pour une embarcation, comprenant :

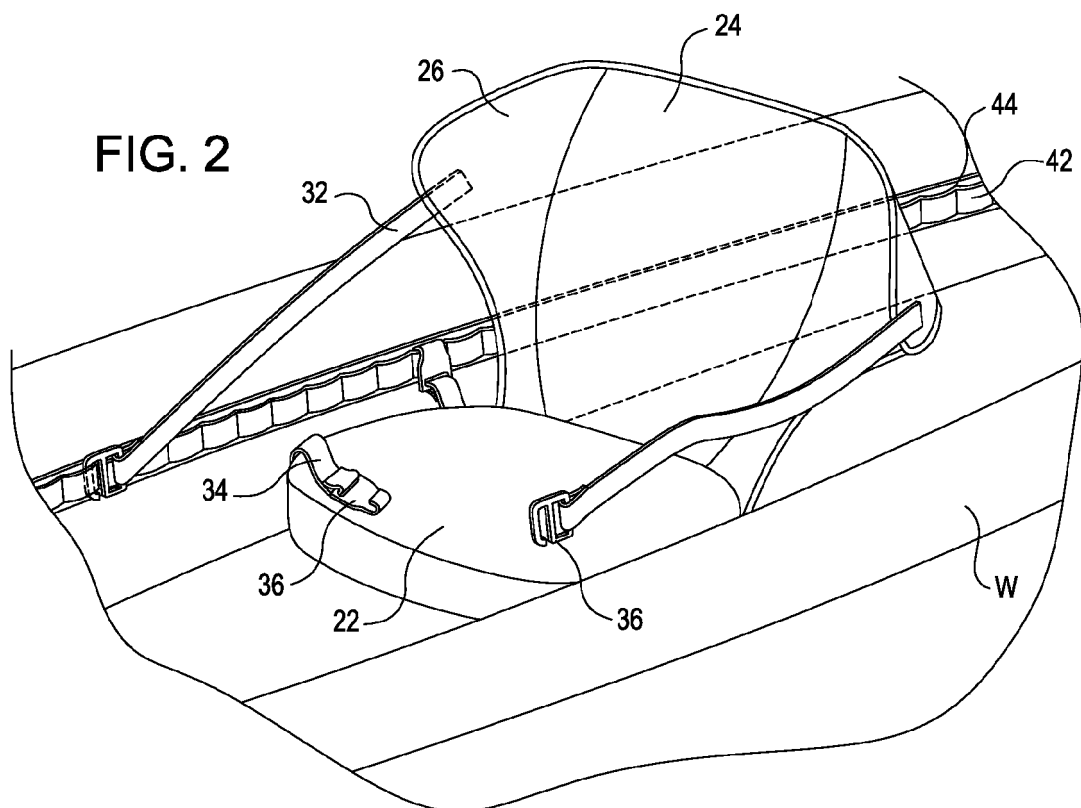
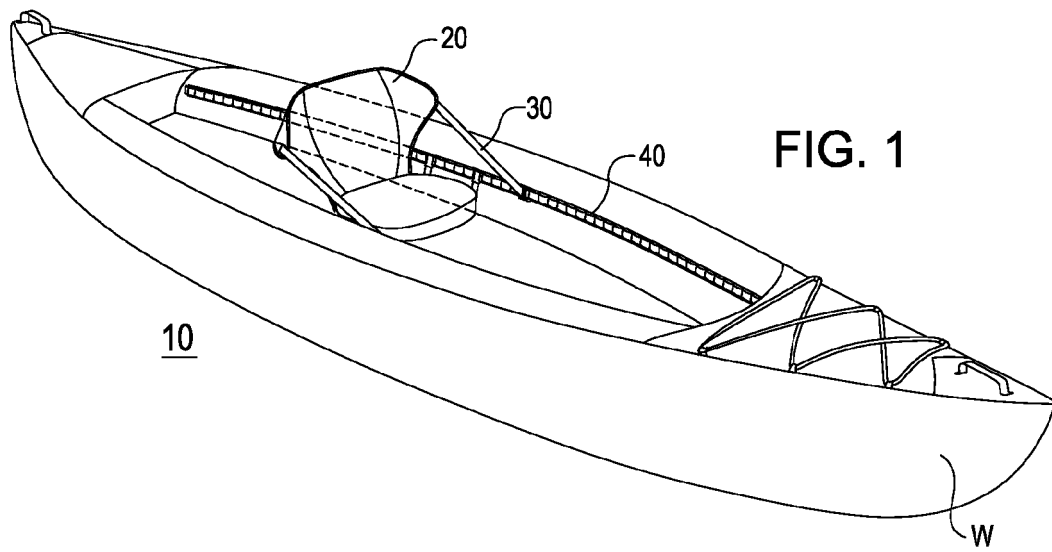
une structure de siège (20) comprenant une base (22) et un dossier (24) ;

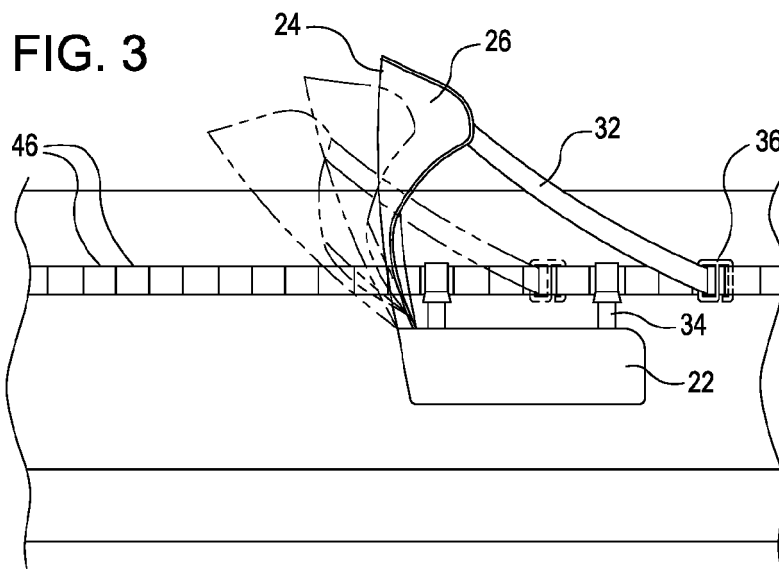
un système de support (30) fixé à la structure de siège (20) comprenant au moins une première sangle (34) fixée à la base (22), une deuxième sangle (32) fixée au dossier (24) et une troisième sangle (34) fixée à la base (22), les première, deuxième et troisième sangles ayant chacune au moins une extrémité libre fixée à des mécanismes de raccordement séparés (36) ;

dans lequel lesdites première sangle (34) et troisième sangle (34) passent à travers la base (22) et ladite deuxième sangle (32) passe à travers le dossier (24) pour permettre le déplacement de la structure de siège le long d'au moins une partie des première et deuxième sangles, chacune des première, deuxième et troisième sangles ayant deux extrémités libres et chaque extrémité libre étant fixée à un mécanisme de raccordement (36) ;

une piste (40) située sur les parois latérales intérieures d'une embarcation, les première, deuxième et troisième sangles étant raccordées amovibles à la piste en une pluralité de points de raccordement (46) par une pluralité correspondante desdits mécanismes de raccordement (36).
2. Système de siège selon la revendication 1, dans lequel lesdits mécanismes de raccordement (36) sont des crochets.
3. Système de siège selon la revendication 1, dans lequel lesdits points de raccordement (46) sont des boucles de toile à sangle.
4. Système de siège selon la revendication 1, dans lequel chacun de la pluralité de points de raccordement (46) est formé et dimensionné pour recevoir et retenir serré un mécanisme de raccordement (36).
5. Système de siège selon la revendication 1, dans lequel la piste (40) comprend un rail de raccordement (42) et un rail de base (44), dans lequel le rail de raccordement (42) est fixé au rail de base (44) et dans lequel le rail de base (44) est conçu pour être fixé sur la paroi intérieure de l'embarcation.
6. Système de siège selon la revendication 5, dans lequel le rail de raccordement (42) comprend une pluralité de points de raccordement (46) qui sont de préférence espacés uniformément sur la longueur du rail de raccordement (42) pour recevoir les mé-

canismes de raccordement (36); lesdits points de raccordement (46) comprenant des boucles du matériau du rail qui sont créées par l'agrafage de sections séparées environ tous les 2,54 cm (un pouce) le long du rail de raccordement (42) pour permettre de retenir en sécurité le mécanisme de raccordement (36) à l'intérieur et pour permettre plusieurs réglages de la position du siège entre les parties avant et arrière de l'embarcation.





REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 62185865 [0001]
- US 8393288 B1 [0003]
- DE 202005006765 U [0003]
- US 8961253 B1 [0003]
- US 20020175542 A1 [0003]
- US 20120017821 A1 [0003]