Yachting unit with improved sun awning structure

A description is given of a yachting unit (1) with a sun awning (2) with an improved structure. The unit (1) comprises:

- a hull (10) with a bow portion and a stern portion;
- lateral bulwarks (7, 8) joined in the direction of the bow portion;
- a command bridge (5) between the bow portion and the stern portion;
- a sun awning (2) having at least one support arch (9) with uprights (17, 18) having lower ends attached to the hull (10) or to the bulwarks (7, 8);

- a space (15) formed transversely to the hull (10) in the bow portion, close to the command bridge (5);
- an attachment device (20) having a hinge structure for connecting (11, 12) each of the lower ends of the uprights (17, 18) to the hull (10) or to the bulwarks (7, 8).

Means (13) are also provided for facilitating the angular movement of the uprights (17, 18) from a rest position, wherein the awning (2) is collapsibly held in said space (15) with the uprights extended parallel to the bulwarks (7, 8), to a working position wherein the uprights are extended above the bulwarks.
Field of application

[0001] The present invention relates in its more general aspect to a yachting unit, that is to say a pleasure boat or seacraft, equipped with a sun awning having improved structure.

[0002] The invention relates in particular, but not exclusively, to a yachting unit of the so-called "open" type or fisherman, that is to say a unit wherein the bow deck and the stem wardroom are separated one from the other by a command bridge.

[0003] More particularly, the invention relates to a yachting unit of the abovementioned type and comprising:

- a hull with a bow portion and a stem portion;
- lateral bulwarks joined in the direction of the bow portion;
- a command bridge between the bow portion and the stem portion;
- a sun awning having at least one support arch with uprights having lower ends attached to the hull or to the bulwarks.

Prior art

[0004] As is well known, in the specific technical sector of yachting the boats and seacraft intended for use close to the coast or within a preset number of miles from the coast are normally equipped with accessories provided to make the time spent on board the boat more pleasant.

[0005] One of these accessories is a sun awning T which can be unfurled in a working position when the boat is at anchor or moored in order to cover a considerable portion of the stem wardroom and of the command bridge so as to protect the occupants against excessive sun radiation.

[0006] In extreme cases the awning can even provide shelter against the rain.

[0007] The awning T is normally structure with two or three tubular metal support arches A1, A2, A3 which support a cloth T1 which can be extended like a fan. Each arch has a pair of support uprights and a vault section which joins the two uprights one to the other above.

[0008] Often only one A1 of the arches has the lower or base end of each upright attached to the boat, while the other arches A2, A3 have the lower ends of the respective uprights hinged to the corresponding uprights of the first arch A1, for example as shown in Figure 1.

[0009] In this way the uprights of the other arches can be angularly displaced and compacted close to the upright of the first arch A1 in order to fold the awning T1 in a rest position.

[0010] In some cases there may also be a further support element or additional upright which has a lower end attached to the boat and upper end hinged more or less to the middle line of the upright of the first arch.

[0011] In a working position the awning can be extended above the stem wardroom, in the area substantially in front of the command bridge, partially covering also the bridge.

[0012] When however its use is no longer necessary, the awning is folded in the rest position with the support arches compacted one with the other and with the cloth gathered together and bound by ties in such a way that it cannot fly away, more particularly when the boat is moving.

[0013] When it is in the rest position the awning of yachting units takes on an appearance substantially similar to that of a roll bar.

[0014] Although it is a very useful accessory and in certain respects essential, the awning has always had the disadvantage of being bulky and above all inconvenient when it is in a rest position.

[0015] The occupants of the boat are in any case forced to tolerate the inconvenience of the awning in a rest position in that its disassembly is unthinkable as objectively it is not known where to put it or store it on the boat.

[0016] The underlying technical problem of the present invention is that of devising a yachting unit equipped with a sun awning having an improved structure and functioning in relation to the solutions proposed by the prior art and such as to allow the awning to be collapsibly stowed away when not in use.

[0017] Another object of the present invention is that of making available to the user of the boat an awning which is easy to handle and which can be unfurled as required with rapid movements and actions and with total safety.

[0018] A further object of the present invention is that of making available to the user of the boat an awning having a particular ease of use and extreme convenience in the change from the working position to that of rest in such a way as to be able to be used by inexpert people.

Summary of the invention

[0019] The proposed solution at the basis of the present invention is that of providing a structure for support of the uprights with lower ends hinged to the bulwarks and a space formed transversely to the hull in the bow portion, close to the command bridge, for collapsibly holding the awning in rest position.

[0020] In accordance with this proposed solution the technical problem has been solved by a yachting unit of the type previously mentioned and characterised in that it comprises:

- a space formed transversely to the hull in the bow portion, close to the command bridge;
an attachment device having a hinge structure for connecting each of the lower ends of said uprights to the hull or to the bulwarks;

means for facilitating the angular movement of the uprights from a rest position wherein the awning is collapsibly held in said space with the uprights extended parallel to the bulwarks to a working position wherein the uprights are extended above the bulwarks.

Advantageously, the attachment device and the respective upright associated therewith are overlaid by a collapsible cover casing housed in a corresponding housing seat formed in the corresponding bulwark when the awning is in rest position.

More particularly, attachment device comprises:

- a flange attached stably to the respective bulwark and integral with a central pin which is cylindrical in shape;
- a sleeve element revolving mounted on said pin and integral with a tubular section wherein the lower end of a corresponding upright of the awning is held.

Moreover, the abovementioned space is closed by a floor cover hinged to an edge of the same space for maintaining continuity with the main deck or bow deck.

Moreover, a small gas cylinder is provided for facilitating the movement of the awning from the rest position to the working position, and vice versa. The small cylinder has one end hinged to the respective bulwark and opposite end hinged to a pin projecting from the attachment device.

Finally it should be noted that, in the direction of the bow of the boat, the respective seats of housing of the respective casing are joined with said transverse space in such a way that, in the rest position, the sun awning is completely held inside the yachting unit.

The features and advantages of the yachting unit according to the invention will be made clearer by the following description of one of its specific embodiments given by way of a non-limiting example with reference to the accompanying drawings.

Brief description of the drawings

Figure 1 shows a perspective view of an awning made according to the prior art;

Figure 2 shows a perspective view of a yachting unit made according to the present invention with a sun awning having improved structure;

Figure 3 shows a perspective view of a detail of the sun awning of Figure 2;

Figure 4 shows a front view of the detail of Figure 3;

Figure 5 shows a schematic view of the detail of Figure 4 with highlighting of an attachment device incorporated in the yachting unit of Figure 2;

Figure 6 shows a perspective view with detached parts of the attachment device incorporated in the yachting unit of Figure 2;

Figure 7 shows a perspective view of the yachting unit made according to the present invention with the sun awning in rest position;

Figure 8 shows a perspective view of a detail of the yachting unit of Figure 7;

Figure 9 shows a longitudinal section view of the sun awning in the rest position of Figures 7 and 8;

Figure 10 shows a longitudinal section view of the attachment device of Figure 6;

Figure 11 is a photo of the attachment device of Figure 6.

Detailed description

Referring to these drawings, 1 denotes schematically and overall a yachting unit equipped according to the present invention with a sun awning 2 having improved structure.

The yachting unit 1 can be a seacraft or boat intended for sailing close to the coast or within a preset number of miles from the coast. However the invention has a field of application also on boats of larger size or intended for sailing on the open sea.

The invention relates more particularly, but not exclusively, to a yachting unit of the so-called open or fisherman type, that is to say a unit wherein a deck or forward main deck 3 and a so-called stem wardroom 4 are separated one from the other only by a command bridge 5 located on the yachting unit 1 in a substantially central position.

Finally it should be noted that, in the direction of the bow of the boat, the respective seats of housing of the respective casing are joined with said transverse space in such a way that, in the rest position, the sun awning is completely held inside the yachting unit.

The features and advantages of the yachting unit according to the invention will be made clearer by the following description of one of its specific embodiments given by way of a non-limiting example with reference to the accompanying drawings.

The command bridge groups together in a manner itself conventional all the commands and the measuring instruments necessary for piloting of the boat. In front of the bridge at least one chair is conventionally provided for the person steering.

The bow deck 3 and the stern wardroom 4 can be on the same level or on two different levels, normally with the bow deck in a higher position in relation to an ideal waterline of the yachting unit, denoted by 6. In the
latter case the two portions are joined by steps placed at the sides of the command bridge 5.

[0034] Lateral bulwarks 7 and 8 define the internal space of the boat and they develop in the stern portion and are joined in the direction of the bow portion. The bulwarks can be formed in one piece with the hull 10, in particular when the boat is made in a synthetic-plastic material such as for example fibreglass.

[0035] Advantageously, the sun awning 2 comprises at least one support arch 9 having a transverse portion 16 or vault and uprights 17, 18 with lower ends joined to the bulwarks 7, 8 of the hull.

[0036] The awning 2 can be structured with two or three tubular support arches 9, 9', 9" which support a cloth which can be extended like a fan, yet only the two uprights 17, 18 of the arch 9, joined to the bulwarks, are sufficient for supporting the entire structure; the uprights of the other tubular arches 9', 9" having lower ends joined to the same uprights 11 and 12.

[0037] More particularly, according to the present invention, the lower ends 11, 12 of the uprights of the arch 9 are hinged to the respective bulwarks 7, 8.

[0038] Even more particularly, means 13 are provided for accompanying and facilitating the angular movement of the uprights of the awning 2 from a rest position to a working position wherein the uprights are elevated above the bulwarks 7, 8 with the transverse portions of the arches 9 which can be extended to cover the stem cockpit 4 and partially the bridge 5. These means 13 comprise a small air cylinder 40 which will be described in greater detail herein below.

[0039] In the yachting unit 1 a space or channel 15 is also provided for collapsibly holding and stowing the transverse portion 16 of the awning 2.

[0040] This space 15 is formed in the hull 10 in the bow portion. In greater detail the space 15 is a transverse cockpit formed substantially in the bow deck 3 close to the command bridge 5, as shown in Figure 1.

[0041] The space 15 can optionally be closed by a cover hinged along a longitudinal edge of the same space 15.

[0042] The cover for closure of the space 15 can be walked over and, when it is closed, provides continuity for the deck or forward main deck 3.

[0043] Advantageously, one edge of the yachting unit 1 is also provided with an attachment device 20 for joining the lower ends 11, 12 of the uprights 17, 18 to the respective bulwarks 7, 8.

[0044] An attachment device 20 is provided for each upright 17 or 18, even if only one of them will be described in detail herein below.

[0045] Each attachment device comprises a flange 21 attached stably to the respective bulwark 7, 8 by means of self-tapping screws 22. The flange has a thickness of at least 8 mm, while the screws 29 are preferably three in number with flat countersunk head and hexagonal socket for handling.

[0046] The flange 21 is preferably circular in shape, with diameter of at least ten cm, even if this cannot ob-

viously entail any limitation for the rights of the Applicant.

[0047] A central pin 23, cylindrical in shape and having external diameter of at least 31 mm, is integral with the flange 21. The pin 23 has axis perpendicular to the plane of the flange 21 and, in a preferred embodiment, is formed in one piece and solidly with the flange 21.

[0048] The pin 23 has free end 28 wherein a threaded seat 31 is formed, intended to hold a handling screw 29.

[0049] The attachment device 20 also comprises a union or coupling 27 described in detail herein below and which is intended as a whole to join a lower end 11 or 12 of an upright 17, 18 with the attachment device 20.

[0050] On the pin 23 a sleeve element 35 of the union 27 is revolving mounted and which has an axis substantially coinciding with the axis of the pin 23.

[0051] Between the sleeve element 35 and the flange 21 of the pin 23 a washer 24 is inserted, for example in Teflon, in order to reduce the axial friction between the flange 21 and the edge of the sleeve element 35.

[0052] Perpendicularly to the sleeve element 35 a tubular section 26 is provided, integral with the sleeve element 35, wherein the lower end 11 or 12 of one of the uprights 17, 18 of the awning 2 is held, with limited play, in the manner of a flag pole. Moreover at least two through holes 34 are provided, to engage with screws or rivets in order to block stably the lower end 11 or 12 of the uprights 17, 18 in the relative tubular section 26.

[0053] Laterally to the tubular section 26 a lug 32 is attached wherefrom a pin 33 projects, is formed in one piece therewith and extends perpendicularly to the axis of the tubular section 26 and substantially parallel to the axis of the sleeve element 35. The pin 33 is in proximity to the free end of the section 26.

[0054] The pin 33 is a hooking termination for the means 13 and in particular for an end of the small cylinder 40.

[0055] All the components of the attachment device 20 are preferably made in a metal material, for example steel.

[0056] The attachment device 20, as a whole, is a hinge structure which conforms on the uprights 17, 18 of the support arch 9 of the awning 2 the freedom of the possibility of being angularly displaced between a minimum elevation and a maximum elevation, or from a rest position wherein the vault 16 of the awning 2 is collapsibly held in the space 15 of the forward main deck to a working position wherein the uprights 17, 18 are extended above the respective bulwarks 7, 8 supporting the awning 2 to allow the fan extension thereof.

[0057] Advantageously, a casing 30 is provided for collapsible covering of the whole attachment device 20 and of the respective upright 17 or 18 of the arch 9.

[0058] The casing 30 is appropriately shaped with a portion 36 which overlays and covers the attachment device 20 and a joined portion 37 which covers substantially a large part of the extension of the uprights 17, 18.

[0059] The portion 36 has an essentially circular box-like structure which is snap-mounted on the union 27, i.e.
Yachting unit (1) with sun awning (2) with improved

The yachting unit of the invention is augmented formed by an unskilled person.

Advantageously, in the respective bulwarks 7, 8 of the yachting unit 1 seats 38, 39 are formed, open in the direction of the interior for collapsibly holding casings 30 for covering of the uprights 17, 18 and of the relative attachment devices 20.

The seats 38, 39 are formed with removal of material, reducing from the internal side the lateral thickness of the bulwarks 7, 8 for a section corresponding to the longitudinal extension of the uprights 17, 18, as shown in full detail in Figure 8.

In the direction of the bow of the boat the seats 38, 39 are joined with the space 15 in such a way that, in the rest position, the sun awning is completely held by the boat itself with the vault collapsibly concealed in the space 15 and the uprights 17, 18 covered by the casing 30 and adhering to the bulwarks 7, 8 in the respective seats 38, 39.

To complete the description it has to be noted that the means 13 for regulating the elevation or the angular movement of the uprights of the awning 2 comprise the small air cylinder 40 which has one end hinged to the bulwark and is extended as far as the section 26 of the attachment device 20 in such a way that the other end is connected to the pin 33. The presence of the small cylinder 40 allows lightening and balancing of the weight of the arch 9, of the casing 30 and of the awning 2 as a whole during its movement. When it is in the position of maximum extension, the small cylinder 40 also performs the function of end-of-stroke stay for blocking the awning 2 in its working position.

The invention solves the technical problem and achieves numerous advantages, the first of which is due to the fact that the awning 2 is collapsibly housed in the same boat almost in the same way as occurs with a soft top of a convertible car.

Moreover, the operation of conversion from the rest position to the working position can easily be performed by an unskilled person.

The yachting unit of the invention is augmented by an optional extra which can be used as preferred by the occupants of the boat.

Claims

1. Yachting unit (1) with sun awning (2) with improved structure and comprising:

- a hull (10) with a bow portion and a stern portion;
- lateral bulwarks (7, 8) joined in the direction of the bow portion;
- a command bridge (5) between the bow portion and the stern portion;
- a sun awning (2) having at least one support arch (9) with uprights (17, 18) having lower ends attached to the hull (10) or to the bulwarks (7, 8); characterised in that it comprises:
  - a space (15) formed transversely to the hull (10) in the bow portion, close to the command bridge (5);
  - an attachment device (20) having a hinge structure (11, 12) for connecting each of the lower ends of said uprights (17, 18) to the hull (10) or to the bulwarks;
  - means (13) for facilitating the angular movement of the uprights (17, 18) from a rest position, wherein the awning (2) is collapsibly held in said space (15) with the uprights extended parallel to the bulwarks (7, 8), to a working position wherein the uprights are extended above the bulwarks.

2. Yachting unit according to claim 1, characterised in that the attachment device (20) and the respective upright associated therewith are overlaid by a collapsible cover casing (30) housed in a corresponding housing seat (38, 39) formed in the corresponding bulwark (7, 8) when the awning (2) is in rest position.

3. Yachting unit according to claim 1, characterised in that said space (15) is closed by a floor cover hinged to an edge of the same space to maintain continuity with the main deck or bow deck.

4. Yachting unit according to claim 1, characterised in that said attachment device (20) comprises:

- a flange (21) attached stably to the respective bulwark (7, 8) and integral with a pin (23) which is cylindrical in shape;
- a union (27) comprising a sleeve element (35) revolving mounted on said pin (23) and integral with a tubular section (26) wherein the lower end (11, 12) of a corresponding upright (17, 18) of the awning (2) is held.

5. Yachting unit according to claim 4, characterised in that between the sleeve element (35) and said flange (21) integral with the pin (23) an anti-friction washer 24 is inserted.

6. Yachting unit according to claim 4, characterised in that said tubular section (26) is perpendicular to the sleeve element (35) and laterally thereto there
is a lug (32) wherefrom a pin (33) for connection with said means (13) projects.

7. Yachting unit according to claim 6, characterised in that said means (13) comprise a small gas cylinder (40) having one end hinged to the respective bulwark (7, 8) and opposite end connected to said pin of the attachment device (20).

8. Yachting unit according to claim 2, characterised in that said casing (30) is made in high-density soft injected polyurethane.

9. Yachting unit according to claim 4, characterised in that all the components of the attachment device (20) are in steel.

10. Yachting unit according to claim 2, characterised in that the seat (38, 39) for holding said casing (30) is formed in a section with reduced lateral thickness of the corresponding bulwark (7, 8) which extends for a length equal to the longitudinal extension of the upright (17, 18) of the support arch (9) of the awning (2).

11. Yachting unit according to claim 10, characterised in that in the direction of the bow of the boat the respective seats (38, 39) for holding respective casings (30) are joined with said transverse space (15) in such a way that, in the rest position, the sun awning (2) is completely held inside the yachting unit.

12. Attachment device (20) for an awning (2) of a yachting unit (1) characterised in that it comprises:

   - a flange (21) attached stably to a respective bulwark (7, 8) of the yachting unit (1) and integral with a pin (23) which is cylindrical in shape and perpendicular thereto;
   - a union (27) comprising a sleeve element (35) revolving mounted on said pin (23) and integral with a tubular section (26) wherein the lower end (11, 12) of a corresponding upright (17, 18) of the awning (2) is held;
   - a pin (33) integral with said union (27) for the connection to means (13) to facilitate the angular movement of said union around said pin (23).

13. Attachment device according to claim 12, characterised in that it comprises a washer (24) between said sleeve element and said flange (21).

14. Attachment device according to claim 12, characterised in that its components are in steel.
**EUROPEAN SEARCH REPORT**

**Application Number**
EP 09 42 5542

**DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
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<td>* very very very close: lower ends uprights NOT attached to hull (sidewall) or the bulwarks but to a railsystem ON the deck.figures 2,5,6 *</td>
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The present search report has been drawn up for all claims.

**Place of search**
The Hague

**Date of completion of the search**
9 June 2010

**Examiner**
van Rooij, Michael

**CATEGORY OF CITED DOCUMENTS**

- **X**: particularly relevant if taken alone
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For more details about this annex: see Official Journal of the European Patent Office, No. 12/82