(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 246 078**
A1

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **87304232.9**

(22) Date of filing: **13.05.87**

(51) Int. Cl.[4]: **B 63 H 9/10**
B 63 B 35/82

(30) Priority: **14.05.86 AU 5900/86**

(43) Date of publication of application:
19.11.87 Bulletin 87/47

(84) Designated Contracting States: **DE FR GB IT NL**

(71) Applicant: **TYRONSEA PLASTICS PTY LTD.**
113 Tapleys Hill Road
Hendon South Australia 5014 (AU)

(72) Inventor: **Dickison Max**
113 Tapleys Hill Road
Hendon § South Australia 5014 (AU)

(74) Representative: **Ranson, Arthur Terence et al**
W.P. Thompson & Co. Coopers Building Church Street
Liverpool L1 3AB (GB)

(54) A sailboard front boom end.

(57) A front boom end for the attachment of a boom to the mast of a sailboard comprises a pair of limbs (15, 16) which diverge rearwardly, each of the limbs having a tubular end to receive the front end of a boom member of a sailboard boom. A curved flange (18) connects the limbs and has a rearwardly facing mast-engaging surface. The curved flange (18) adjacent one of the limbs comprises a web which defines a hook (20). A handle (12) has a bifurcate end the limbs of which straddle the boom end and are connected to the boom end by means of a pivot pin (22), and a loop of rope (13) which is positionable through a hole in the handle, when looped over the hook (20), may be tensioned around the sailboard mast by the handle. The handle (12) can be semi-circular in cross-section so that it overlies a limb (16) of the boom end when closed, but can be made so short that the physical force applicable thereto by a user is insufficient to crush a mast.

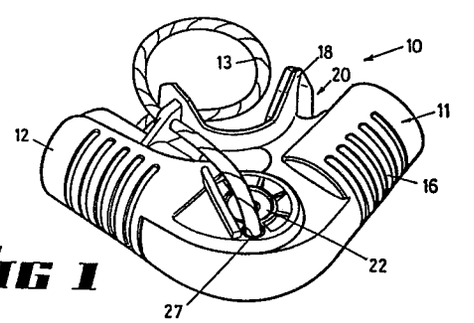

FIG 1

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Description

"A SAILBOARD FRONT BOOM END"

This invention relates to the front boom end for a sailboard.

In sailboards, conventionally the mast supports a boom (for pivotal movement of the rig) near the lower end of the mast, the boom comprising two boom side assemblies which are joined at their front ends by the front boom end and at their rear ends by the rear boom end, the two boom side assemblies being located on opposite sides of the sail. The boom comprises a hand grip for the user.

There are a number of difficulties which have been encountered with the front boom ends of sailboard booms.

One of the requirements of the sailboard is that the mast should be very light in weight, so that it is buoyant when the board lies with the sail on the water so that the board is not completely capsized. For this reason the mast is normally constructed in a hollow formation with very thin walls, and these walls are easily damaged when excessive forces are applied. However the usual arrangement for the sailboard front boom end is for a rope to be attached to the upper end of the boom end, and for the boom to be moved up and down the mast, but to be tightened against the mast by levering the boom downwardly against its upper edge as a fulcrum point, and this in turn applies tension to the rope. Since there can be maladjustment of the rope, it is possible to crush or indent the thin mast wall, and one of the main objects of this invention is to provide means whereby such damage will not occur.

A second problem is sometimes encountered by people who are not conversant with ropes and knots if they use a rope system for attachment of a front boom end to a sail board mast, in that they have difficulty in making the attachment without danger of damaging the mast, and a second object of the invention is to provide a simple system which is easily adjusted.

In this invention the front boom end for the attachment of a boom to the mast of a sailboard comprises a pair of limbs which diverge rearwardly, each of the limbs having a tubular end to receive the front end of a boom member of a sailboard boom. A curved flange connects the limbs and has a rearwardly facing mast engaging surface. The curved flange adjacent one of the limbs comprises a web which defines a hook. A handle has a bifurcate end the limbs of which straddle the boom end and are connected to the boom end by means of a pivot pin, and a loop of rope which is positioned through a hole in the handle, when looped over the hook, may be tensioned around the sailboard mast by the handle. The handle can be semi-circular in cross-section so that it overlies a limb of the boom end when closed, but can be made so short that the physical force applicable thereto by a user is insufficient to crush a mast.

More specifically, the invention consists of a body with a pair of limbs which diverge rearwardly, each of the limbs having a tubular end of dimension to receive the front end of a respective boom member, a curved flange connecting the limbs and having a rearwardly facing mast-engaging surface, a web defining a hook between one of the limbs and a convex surface of the curved flange, a handle, pivot means pivoting the handle to the body, and a loop of line between the handle and the body, which, upon being extended around the sailboard mast, is positionable in the hook and tensioned upon movement of the handle.

The the invention is used, it is desirable to be able to adjust the length of the rope loop when the device is applied to a mast, so that masts of different diameters, or any stretch of the rope, can be compensated for. In an embodiment of the invention the handle is provided with a wedge shaped slot through which a rope end is passed, the rope end having a "tail" which can be moved into or out of the wedge shaped slot in such a way that the length of the loop is decreased or increased, and that closure of the handle will merely apply additional tension.

An embodiment of the invention is described hereunder in some detail with reference to, and is illustrated in, the accompanying drawings, in which:

FIG. 1 is a perspective view of a front boom end assembly,

FIG. 2 is a front end elevation of the boom end body,

FIG. 3 is a plan view of FIG. 2,

FIG. 4 is a side elevation of FIG. 3,

FIG. 5 is a section taken on line 5-5 of FIG. 2,

FIG. 6 is a plan view of a handle portion of the front boom assembly, and

FIG. 7 is an underside view of FIG. 6.

FIG. 1 shows, in perspective, a front boom assembly 10, comprising a body 11, a handle 12, and a loop of rope 13. Material other than rope can be used, for example stainless steel wire.

As shown in FIGS. 2 to 5, the boom end body 11 comprises a pair of limbs 15 and 16 and these diverge rearwardly with an included angle of 90° (FIG. 3). the limbs 15 and 16 are hollow to receive the forward ends of the boom portions (not shown) of respective boom side assemblies. A curved flange 18 is monolithic with the limbs 15 and 16, and faces rearwardly, the curvature of the concave surface, being complementary to a mast surface. The maximum height 'H' of this flange 18 is such that pressure exerted by the fitting to the mast of a sailboard is spread over a large area so that inadvertent crushing of the mast due to wind or tightening forces is avoided. One side of the convex surface of the curved flange 18 is provided with a web 19 defining a hook 20 as shown in the plan view (FIG. 3) and the central portion of the body portion 11 is provided with an aperture 21 for receiving a pivot pin 22 as shown in FIGS. 3 and 5. Aperture 23 receives an end of an up-haul rope (not shown).

Handle 12 which is shown in plan in FIG. 6 and in underside view of FIG. 7 has a pair of wings 26 which define a bifurcate end. The wings 26 straddle the

central part of the boom end body 11, and are connected thereto by the aforesaid pin 22 for swivelling of the handle. The handle 12 is also provided with aligned circular rope apertures 27 through respective limbs 26, and in one of the wings 26 there is additionally provided a wedge shaped slot 28 which receives the tail of a loop of rope 13, the loop being secured at its other end to the handle through one of the rope apertures 27.

The rope loop 13 releasably engages in hook 20, and can have an initial tension applied by merely pulling the loop after it has been engaged over the hook, the wedging the rope tail in the wedge shaped slot 28. This is done while the handle is "open", but pivotal movement of the handle about its pivot pin 22 will cause additional tension which will be taken up by the resilience of the front boom end itself, handle, pin, and rope, and the handle will move to an "over centre" position where it locks against accidental release. However, the amount of pressure applied by squeezing the band is small; with this arrangement the danger of damage to the mast is considerably reduced, and the tension which is applied is arranged to be such that the pressure between the front boom end and the mast is relatively small.

A friction pad 30 is secured to one side of flange 18, to reduce tendency for the boom end assembly 10 to slide over the mast of a sailboard.

There are a number of advantages besides the simplicity of rope tensioning. The rope which is used can be conveniently of the same cross-sectional dimension as rope otherwise used, and is readily available. If, for example, a toothed band were used as in prior art tensioning devices, the tension would not be infinitely adjustable, as in the case with the rope. If a toothed band breaks or is damaged it is necessary to have another toothed band as a replacement and this may not be readily available, but replacement rope is usually available. As said before, it is desirable that the weight should be sufficiently small that the mast and boom are buoyant, and the arrangement is so simple that it can be made lightweight. The attachment is extremely easy, simply looping the loop of rope over the hook, and adjustment of the boom up and down the mast is also very simple, merely requiring the release of the handle while adjustment is made.

A consideration of the above embodiment will indicate the mast/boom connection system is very simple operable. For example, the operator need not be conversant with any specialised knotting, lashing or lacing techniques as required on other fittings.

Further, there is a considerable time saving in the assembly of the mast/boom connection system, in the order of two or three times faster than most conventional systems.

Claims

1. A front boom end for the releasable attachment of a boom to a mast of a sailboard comprising a body (11) with a pair of limbs (15,16) which diverge rearwardly, each of the limbs having a tubular end of dimension to receive the front end of a respective boom member, a curved flange (18) connecting the limbs and having a rearwardly facing mast-engaging surface, a web (19) defining a hook (20) between one (16) of the limbs and a convex surface of the curved flange, a handle (12), a pivot (21, 22) means pivoting the handle (12) to the body (11), and a loop of line (13) between the handle and the body, which, upon being extended around the sailboard mast, is positionable in the hook (20) and then tensioned upon movement of the handle (12).

2. A front boom end according to claim 1 characterised in that the curvature of the mast-engaging surface of the curved flange is complementary to a surface of said sailboard mast.

3. A front boom end according to claim 2 further characterised by a friction pad (30) on the mast-engaging surface.

4. A front boom end according to claim 1, 2 or 3, characterised in that said web (19) extends from the convex surface of the curved flange (18) towards said one (16) of the limbs.

5. A front boom end according to claim 1, 2, 3 or 4, characterised in that an end of said handle is bifurcate, having a pair of wings (26), and said pivot means comprise a pivot pin (22) between the handle (12) and the body (11).

6. A front boom end according to claim 5 characterised in that said handle wings (26) contain aligned apertures (27) eccentric with respect to the pivot pin (22), and one of said wings (26) also comprises a wedge shaped slot (28), one end of said loop of rope (13) extending through the aperture (27) in one of the wings (26), the other end passing through the aperture (27) in the other said wing (26), and having a tail which also passes through said wedge shaped slot (28).

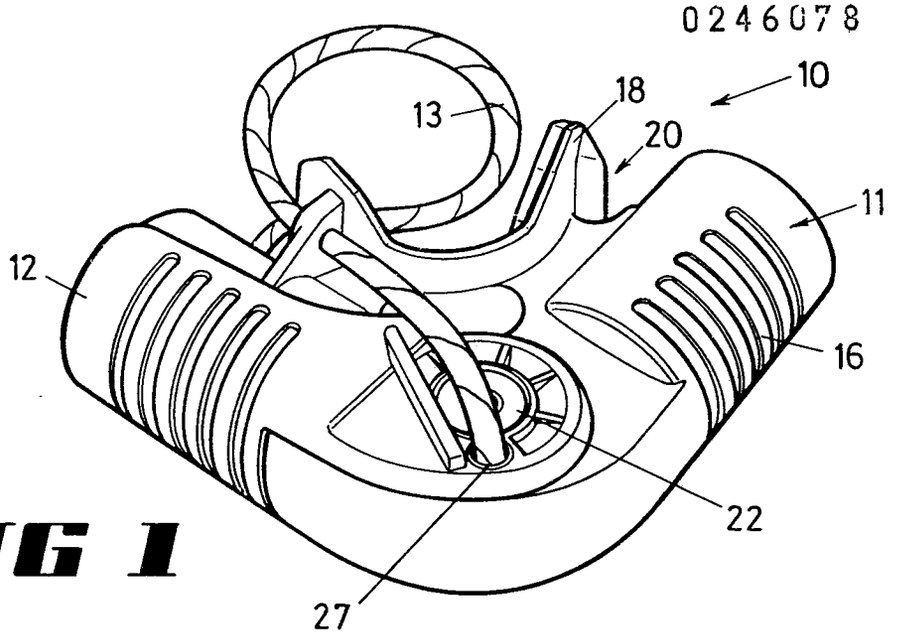

FIG 1

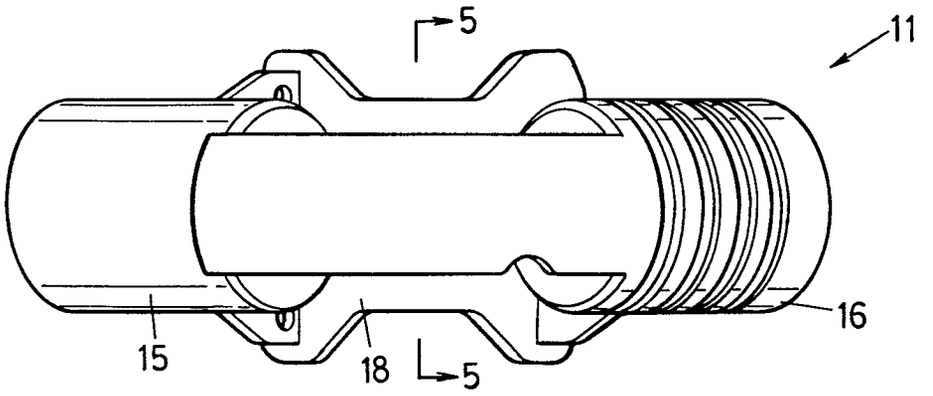

FIG 2

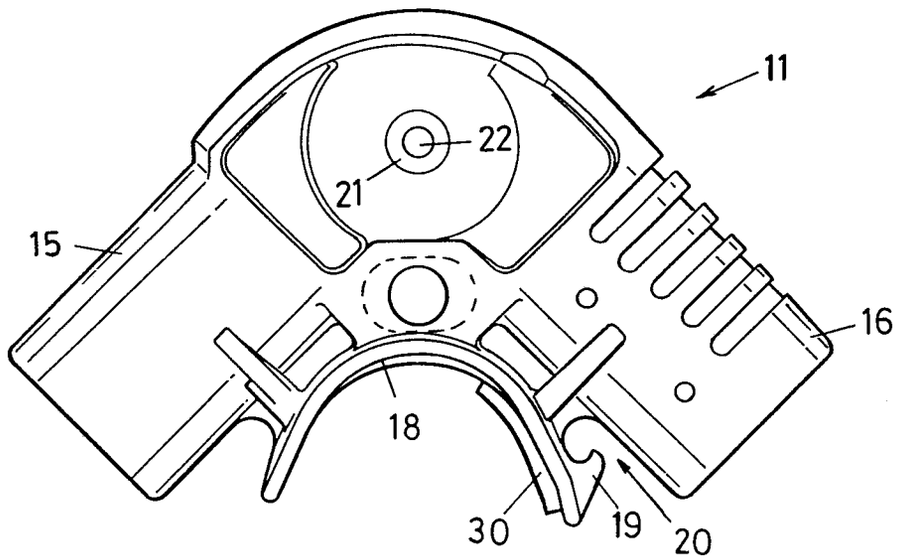

FIG 3

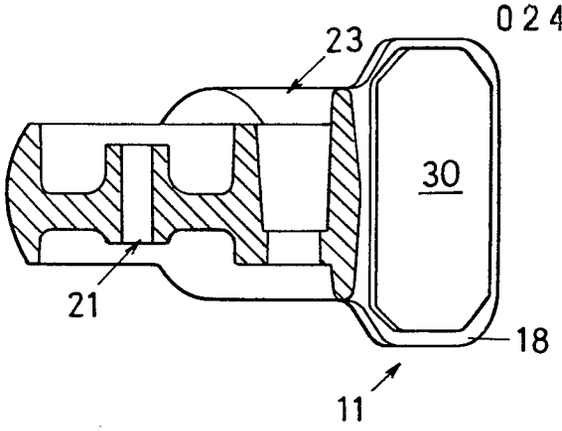

FIG 5

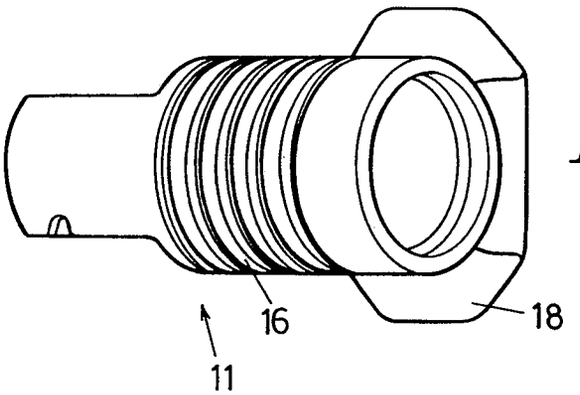

FIG 4

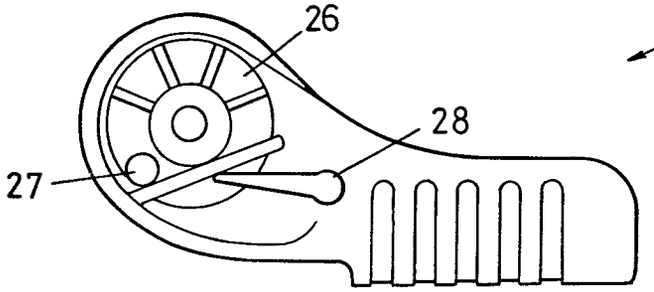

FIG 6

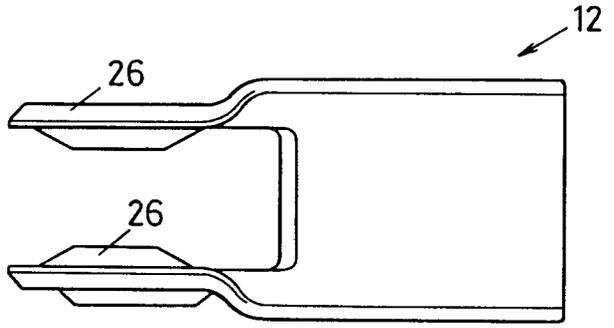

FIG 7

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EUROPEAN SEARCH REPORT

Application number

EP 87 30 4232

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X	DE-U-8 514 916 (KRANEMANN) * Whole document *	1-4	B 63 H 9/10 B 63 B 35/82
A	DE-A-3 411 042 (HAUPTMANN)		
A	DE-A-3 238 230 (REMMERS)		
A	FR-A-2 511 647 (McNELLY)		

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

B 63 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	03-08-1987	KNOPS J.

CATEGORY OF CITED DOCUMENTS

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