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(54) Sailboard boom.

(57) This invention provides a sailcraft boom which finds particular application as a sailboard wishbone boom. The boom (24) includes a bifurcated head (38.1) which is open towards the front and extends partially around the mast (14). The head includes a knotted line coupling and a chock (40) is provided and adapted to fit within and space apart the open legs of the bifurcated head (38.1) ahead of the mast (14). The knotted line coupling comprises a loop of line (42) which extends around the chock (40) and the aft ends of the boom arm roots (38.2) of the points of securement to the loop (42), when the boom (24) is in position on the mast (14).

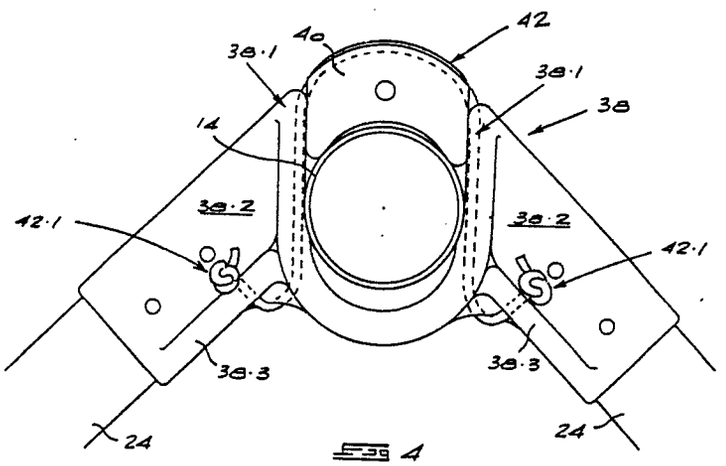

Fig 4

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SAILBOARD BOOM

BACKGROUND OF THE INVENTION

This invention relates to a sail craft boom that finds particular application as a boom for a sailboard.

Jib-headed sails for sailing craft, such as sailboards, are tensioned between the mast and the boom by means of a sail outhaul sheet. The outhaul tension acts between the outhaul of aft end of the boom and the aft side of the mast. In sailboards, the boom is normally secured ahead of the fore end of the mast and the sail outhaul tension is counteracted by means of a coupling which is essentially in tension, and which acts between the aft side of the mast and the fore end or head of the boom. The coupling could be mechanicial of a knotted line coupling.

Knotted line couplings are very well known, but it is not always appreciated that, in these couplings, the outhaul tension is applied, through the boom, to the aft side of the mast.

Simple variations on the use of a knotted line coupling utilise rigid line replacement elements by means of which the mast is entrapped within the circle described roughly by the encircling head of the boom and the rigid line replacement element. Examples of such line replacement elements are to be found in US patent no. 4,546,720 - DU MORTIER, French patent no. 2, 575,132 - ECK ET AL and many others. All these line replacement mechanisms do not appear to address, in an adequate manner, the requirements of the sailboard sailor for an attachment which is equally or more secure and rigid than the existing line couplings and which, in addition, is more simple to attach than a knotted line coupling.

SUMMARY OF THE INVENTION

According to the invention a sail craft boom includes a head end and an outhaul end against which a sail outhaul may tension a sail between the mast and the boom, the head end including an bifurcated head which is open towards the front and adapted to extend partially around the mast and to bear against the aft side of the mast, the head including a knotted line coupling and a chock being provided and adapted to fit within and space apart the open legs of the bifurcated head ahead of the mast, the knotted line coupling comprising a loop of line adapted to extend around the mast, the ends of the line being secured to the bifurcations.

The boom is preferably a sailboard wishbone boom including a pair of boom arms extending from boom arm roots on either side of the boom head with the legs of the wishbone being connected to one another at the outhaul end of the boom, the loop of line being dimensioned for the line to extend tightly about the chock and the aft ends of the boom arm roots to the points of securement of the loop when the boom is in position on the mast.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be described with reference to the drawings in which:

Fig. 1 is a diagrammatic side elevation of a sialboard mast and sail with a boom of the invention;

Fig. 1b is an enlarged perspective view of the boom head;

Fig. 2 is a diagrammatic plan view of the boom of fig. 1;

Fig. 3 is a side elevation of the boom head;

Fig. 4 is a plan view of the boom head; and

Fig. 5 is a side elevation of the chock.

DESCRIPTION OF EMBODIMENTS OF THE INVENTION

In Fig. 1 a sailboard sail 10 has the luff thereof formed with a mast pocket 12 into which a mast 14 is inserted. The tack 16 of the sail is provided with a grommet 18 through which a downhaul sheet 20 draws the sail downwardly against an eye 22 or the like incorporated in the foot of the mast 14.

The sail 10 is tensioned between the mast 14 and a boom 24 by means of an outhaul sheet 26 which is secured to the outhaul end 24.1 of the boom and to a grommet 28 in the clew 30 of the sail 10.

The outhaul tension, which acts in the direction of the arrow 34, tends to draw the clew 30 and the luff of the sail apart and tends to draw the mast 14 and the aft end 24.1 of the boom 24 together. The result is that the boom 24 is effectively forced, by the outhaul tension, in the direction of the dotted arrow 36.

Conventional sailboard booms counteract this force by securing the boom to the mast by means of a tension coupling which is in forward tension between, essentially, the aft end of the mast and the fore end of the boom.

The boom of the invention is provided with a bifurcated pressure coupling head constituted by a

substantially U-shaped bracket 38 bearing against the aft side 14.1 of the mast 14.

During sailing, the combined actions of the wind and those of the boardsailor tend to draw the arms 24.2 of the boom apart and, referring to the plan view of Fig. 4, it will be appreciated that this action will tend to close the leading ends or bifurcations 38.1 of the U-shaped bracket 38. If unrestrained, this action would, of course, crush the mast 14 and, to this end, a chock 40 is provided which fits between the open bifurcations 38.1 of the U-shaped bracket 38 for the purpose of spacing apart the bifurcations to the extent necessary to prevent crushing of the mast 14. The chock 40 also serves to transmit the coupling force of the knotted line coupling to the mast 14. In this regard it will be noted that both the curved pressure face of the chock 40 and the curved base of the U-shaped bracket 38 have a dissimilar curvature to that of the mast. The reason for this is to ensure point or line pressure against the mast as a further means of preventing damage to the mast 14.

The boom arms 24.2 extend from boom arm roots 38.2 on either side of the bifurcations 38.1, which boom arm roots 38.2 are reinforced by means of reinforcing gussets 38.3. The gussets 38.3 serve as points of attachment for a loop of line 42, the free ends of which merely have knots 42.2 formed therein on the fore sides of the gussets 38.3. The line 42 therefore extends in a closed loop which, in use, is drawn around the aft ends of the boom arm roots 38.2 and around the fore end of the chock 40.

The boom 24 is retained in position on the mast 14 by a combination of the outhaul tension and a knotted line coupling which can be seen in greater detail in Figures 3 and 4.

To secure the boom 24 to the mast 14, the loop of line 42 is merely looped forward to extend towards the front of the bracket 38. The mast 14 is now inserted through the closed circle, defined roughly by the U-shaped bracket and the loop of line 42, with the mast and the boom held substantially parallel to one another. At the point of attachment, the chock 40 is positioned between the bifurcations 38.1, the line 42 is positioned within the appropriate groove 44 in the chock 40 and the boom arms 24.2 are drawn upwardly to extend at substantially right angles to the mast 14.

The line 42 is dimensioned such that this action draws the line around the bottom ends of the arm roots 38.2 and also draws the chock 40 tightly into the bifurcations to clamp the mast 14 within the U-shaped bracket 38.

Prior to this seqence of operations, the sail 10 will of course have been positioned on the mast 14 and the downhaul and outhaul sheets 20 and 26 can now be used to secure the sail to the mast and boom, thereby securing the intire assembly.

Claims

1. A sailcraft boom including a head end and an outhaul end against which a sail outhaul may tension a sail between the mast and the boom, characterised in that the head end includes a bifurcated head which is open towards the front and adapted to exted partially around and to bear against the aft side of the mast, the head including a knotted line coupling and a chock being provided and adapted to fit within and space apart the open legs of the bifurcated head ahead of the mast, the knotted line coupling comprising a loop of line which is adapted to extend around the mast and the ends of the loop of line being secured to the bifurcations.

2. A sailcraft boom according to claim 1 which is constituted by a sail board wishbone boom including a pair of boom arms extending from arm roots on either side of the boom head with the legs of the wishbone being connected to one another at the outhaul end of the boom, characterised in that the loop of line is dimensioned for the line too extend tightly about the chock and the aft ends of the boom arm roots to the points of securement of the loop, when the boom is in position on the mast.

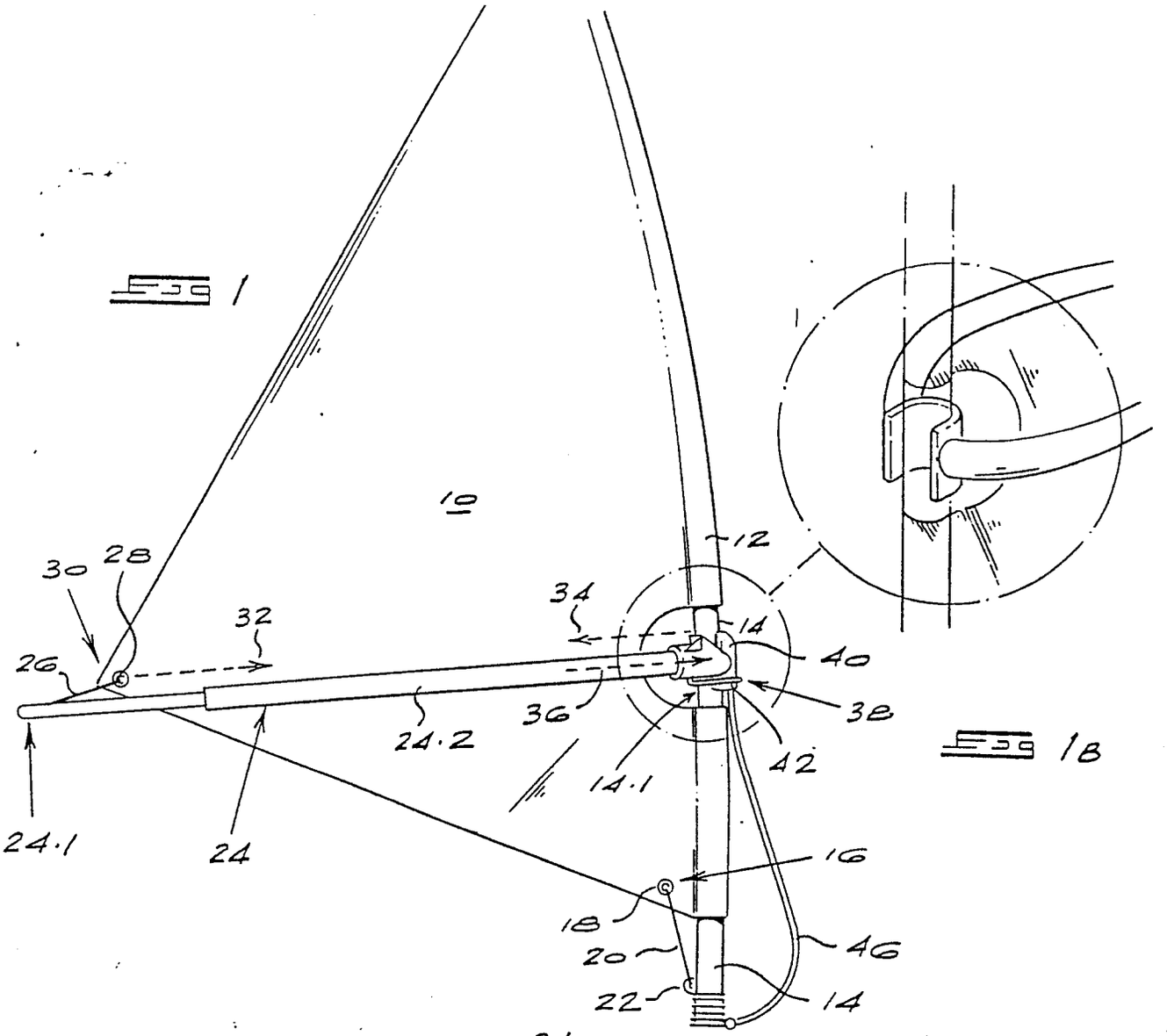

Fig 1

Fig 1B

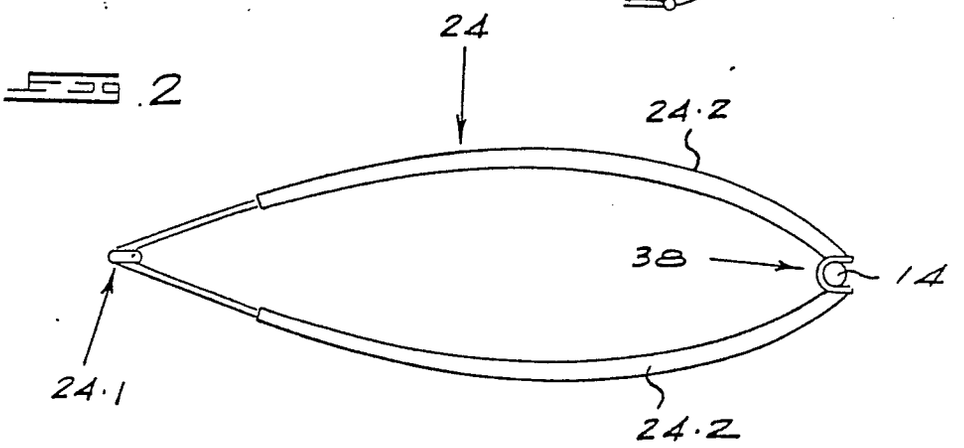

Fig 2

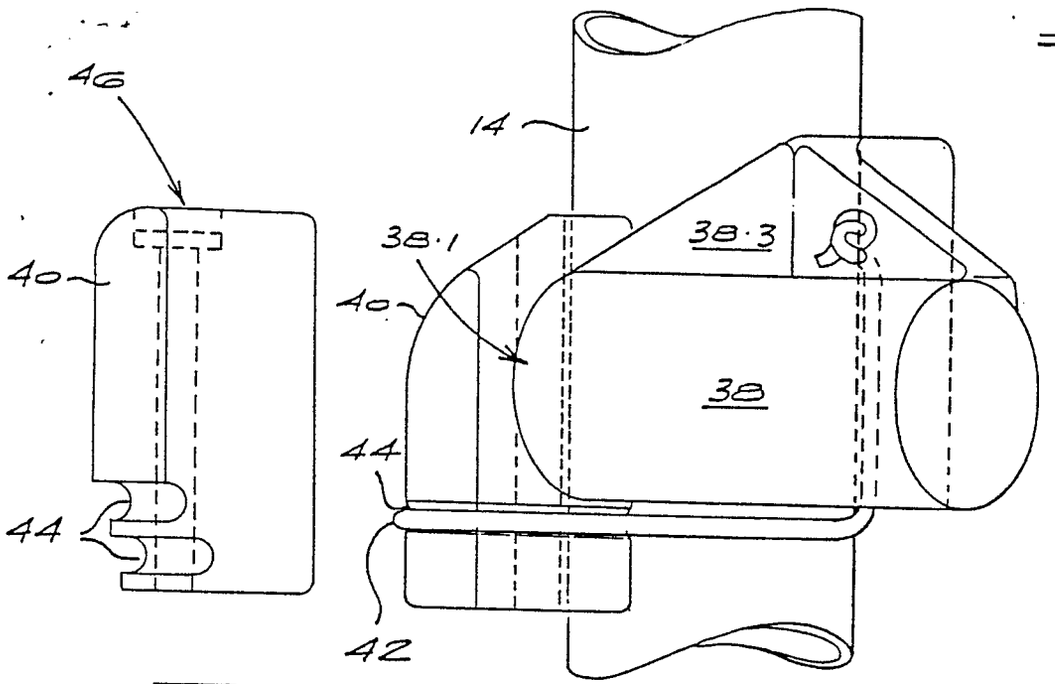

FIG. 3

FIG 5

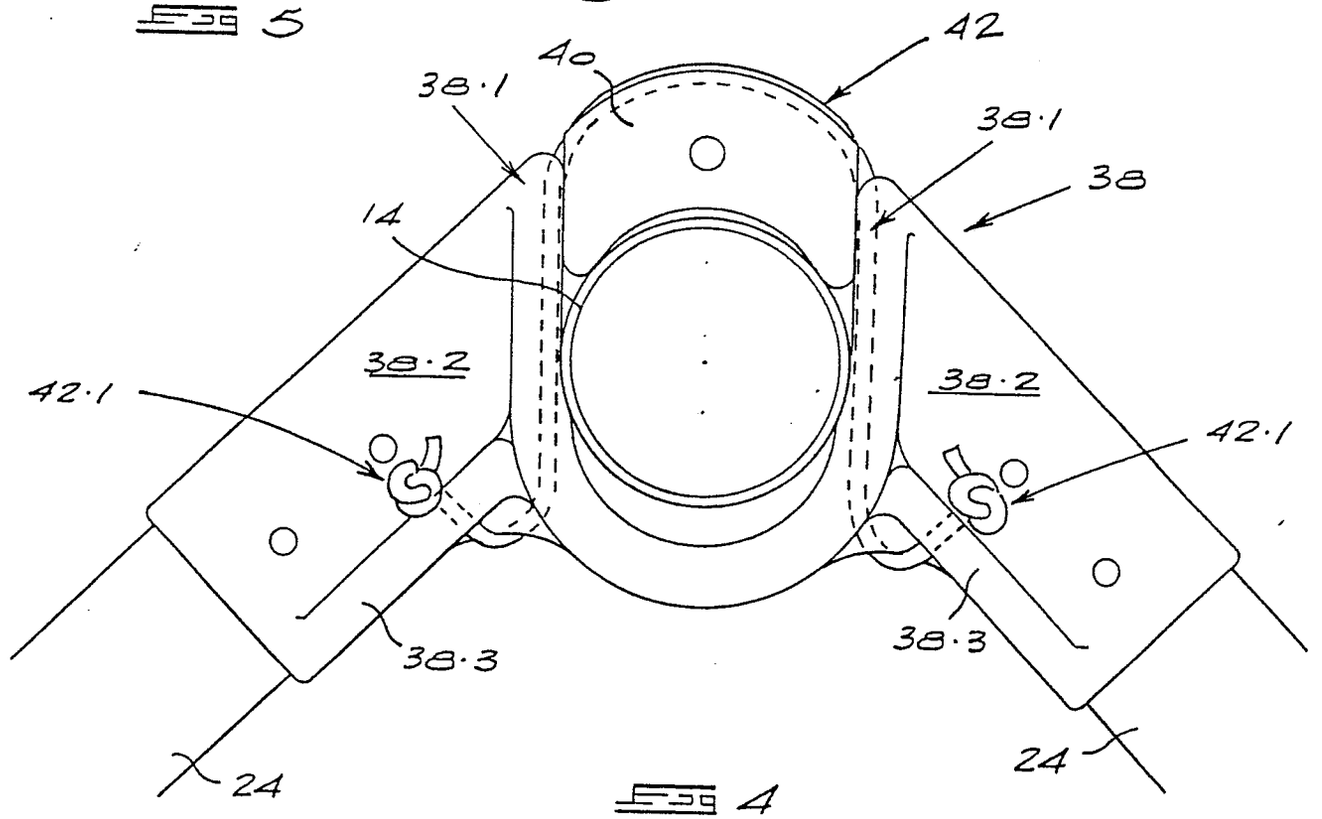

FIG 4

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 87 11 7195

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	EP-A-0 139 782 (PARTANAG) * Page 14, lines 2-20 *	1	B 63 B 35/82
A	DE-U-8 606 514 (CHOWANIEC) * Claims, lines 1-10 *	1	
A	FR-A-2 445 268 (JOLIVET) * Whole document *	2	
P,A	EP-A-0 213 034 (LE PROFIL)		
P,A	WO-A-8 700 503 (BARTHOLIN)		

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	25-02-1988	KNOPS J.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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