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

(11) Publication number : **0 578 599 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number : **93500078.6**

(51) Int. Cl.[5] : **B63H 16/06**

(22) Date of filing : **08.06.93**

(30) Priority : **09.07.92 ES 9201415**

(43) Date of publication of application :
12.01.94 Bulletin 94/02

(84) Designated Contracting States :
CH DE FR GB IT LI

(71) Applicant : **Sarasua Zumeta, Francisco**
Eusko Gudariak, 29 bajo
E-20810 Orio (Guipuzcoa) (ES)

(72) Inventor : **Sarasua Zumeta, Francisco**
Eusko Gudariak, 29 bajo
E-20810 Orio (Guipuzcoa) (ES)

(74) Representative : **Carpintero Lopez, Francisco**
HERRERO & ASOCIADOS, S.L. Alcalá, 21
E-28014 Madrid (ES)

(54) Improvements to the assembly of rowlocks in the hull of a sports rowing-boat.

(57) Such comprise inverting the working position of the rowlock, so that the oar (9) works on the side branch (7) of the same, opposite the hinge branch (6) on the shaft associated to the bearing structure (1-2) so that the thole-pin for such oar (9) is displaced sideways and considerably with regard to the thole-pin of the rowlock, and therefore with the oarsman's strength, oar length and rowlock bearing structure unchanged, the leverage increases and hence so does the force exerted by the oar stroke.

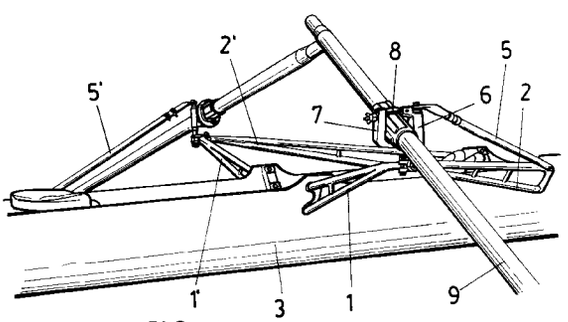

FIG.-1

EP 0 578 599 A1

OBJECT OF THE INVENTION

The present invention relates to a number of improvements or advancements to the assembly of rowlocks to the hull of a sports rowing-boat, which improvements are designed to achieve a substantial increase in the rowing strength for a same effort by the oarsman, without changing the kind of oar used or the placing of its fulcrum in respect of the boat.

BACKGROUND OF THE INVENTION

As one knows, rowlocks in a boat are elements through which a link or relation is made between the boat as such and the oars driving the same, which rowlocks conveniently comprise a simple reinforcement on the edge of the boat on which the thole-pin bearing the oar is centrally located.

In more modern boats, of the kind for doing sports, in which for hydrodynamic purposes the hull is very stylised and the rowlocks are considerably removed from the same sideways, in particular being related to the hull by means of a framework comprising two pairs of bars meeting at the point where the rowlock is located, one of such pairs projecting almost at a right-angle to the craft, while the other does so in a remarkably inclined arrangement, pointing from the rowlock towards the poop of the craft, so that each such pair makes up a deformable triangle with the boat as such, and the pairs of bars at the same time make up with one another, likewise with the assistance of the boat, a third rigid triangle which assures a perfect stability for the rowlock, the said four bars ending at the lowermost point of its thole-pin, while the uppermost point of the said pin is fitted with a fifth bar; likewise in a remarkably inclined arrangement, in this case pointing towards the bows.

The rowlock as such comprises a roughly U-shaped part one of side branches of which is crossed by its thole-pin, through which it is joined to the aforesaid five bars, this side branch moreover constituting the oar support whilst working as a fulcrum therefor, the middle branch and the other side branch in the U being merely means stabilising the oar, the rowlocks being closed at the top by means of a taper bolt and a gusset, thereby to become a closed element or ring, in which the oar fits conveniently.

DESCRIPTION OF THE INVENTION

The improvements subject of the invention are basically to invert the working position of the rowlock, so that the operative branch thereof is the one opposite to that making its hinged connection to the respective support, which implies that without changing the structure of the said support and using the same kind of oar, its hinge fulcrum will be beneficially displaced to achieve a greater rowing strength with the same effort by the oarsman.

This means that both the middle branch and the now operative branch of the rowlock shall have to be suitably reinforced in order to withstand the stress to which they will be put, and its taper bolt shall also have to be reinforced, for it will now in turn have to withstand a considerable tensile stress.

To complement the above structure and in accordance with another improvement of the invention, a positional change has also been provided for the fifth bar, which shall now point obliquely towards the poop, inasmuch as this arrangement is better for the new manner of working of the rowlock as such.

DESCRIPTION OF THE DRAWINGS

In order to provide a fuller description and contribute to the complete understanding of the characteristics of this invention, a set of drawings is attached to the specification which, while purely illustrative and not fully comprehensive, shows the following:

Figure 1.- Is a partial perspective view of a rowing-boat with its port rowlock made in accordance with the improvements of the invention, while the starboard rowlock is a conventional one.

Figure 2.- Is another partial perspective view of the same boat, taken from a different angle.

Figure 3.- Is finally a comparative diagram between the two rowlocks of figure 1, serving to clarify the functional differences between the same.

PREFERRED EMBODIMENT OF THE INVENTION

It can be seen in light of these figures that a rowlock fitted in accordance with the improvements subject of the invention is provided with a support which, as usual, comprises two pairs of bars (1) and (2), conventionally (1') and (2'), each such pair making up a sort of considerably elongate triangle, projecting from the hull (3) of the boat at its widest end, and joined at its vertex to the other pair of bars, ending in the support as such for a short vertical shaft (4) upon which the rowlock as such is mounted, which shaft (4) is in turn stiffened at its upper end by a fifth bar (5) which is, as opposed to what is usually the case, pointed in accordance with the improvements of the invention towards the poop of the boat, instead of being so against the bows, as with the fifth conventional bar (5').

The rowlock as such, likewise as a conventional rowlock, is generally U-shaped so that one of its side branches (6) articulately receives the said shaft (4), which crosses the branch, this latter being joined to its other side branch (7) not only through its middle branch but also through a taper bolt (8) which closes the top of the rowlock once the oar (9) has been duly fitted therein.

Now then, in accordance with another one of the

improvements of the invention, in the said rowlock instead of having the branch (6) though which it is articulately joined to the support shaft (4) as the fulcrum, as is usually the case, its other side branch (7) is the fulcrum, to which end the latter must be suitably reinforced, to withstand the bending stress to which it shall be put, and the tape bolt (8) will also be appropriately reinforced.

This substantial side displacement of the fulcrum with regard to the thole-pin (4) of the rowlock, clearly shown in figure 3, where the conventional rowlock is numbered (10) and the rowlock of the invention (11), while the said displacement has been shown with the arrow "X", corresponding to support points A and B of the oar (9), implies a substantial variation of the leverage which means that whilst the strength of the oarsman, the oar length and the rowlock support structure remain unchanged the oarsman's leverage is increased and hence so is the strength exerted by the oar stroke (12).

Claims

1.- Improvements to the assembly of rowlocks in the hull of a sports rowing-boat, in particular a boat of the kind in which the rowlock is fixed to the hull through a shaft made integral with a bearing structure comprising two pairs of bars meeting on the lowermost end of the shaft and a fifth bar fixed to the uppermost end of the said shaft, essentially characterised in consisting in the inversion of the position of assembly and operation of the rowlock, in order to displace or separate the fulcrum or rotating point of the oar to one side, as regards the thole-pin of the rowlock, so that the oar (9) is supported by the side branch (7) of the rowlock, opposite the side branch (6) thereof crossed by the shaft (4) made integral with the support (1-2) and through which the said rowlock is made to hinge, the side branch (7) of the rowlock making up the thole-pin for the oar (9) being provided duly reinforced to bear the bending stress it shall undergo, as will the taper bolt (8) closing the mouth of the rowlock to bear the tensile stress that it shall in turn undergo.

2.- Improvements to the assembly of rowlocks in the hull of a sports rowing-boat, as in claim 1, characterised in that the fifth bar (5) of the structure supporting the rowlock is directed in a considerably oblique arrangement from the uppermost end of the shaft (4) of the rowlock to the poop area of the boat, in an arrangement which is considerably like the pair of lower and likewise oblique bars (2) of the same bearing structure.

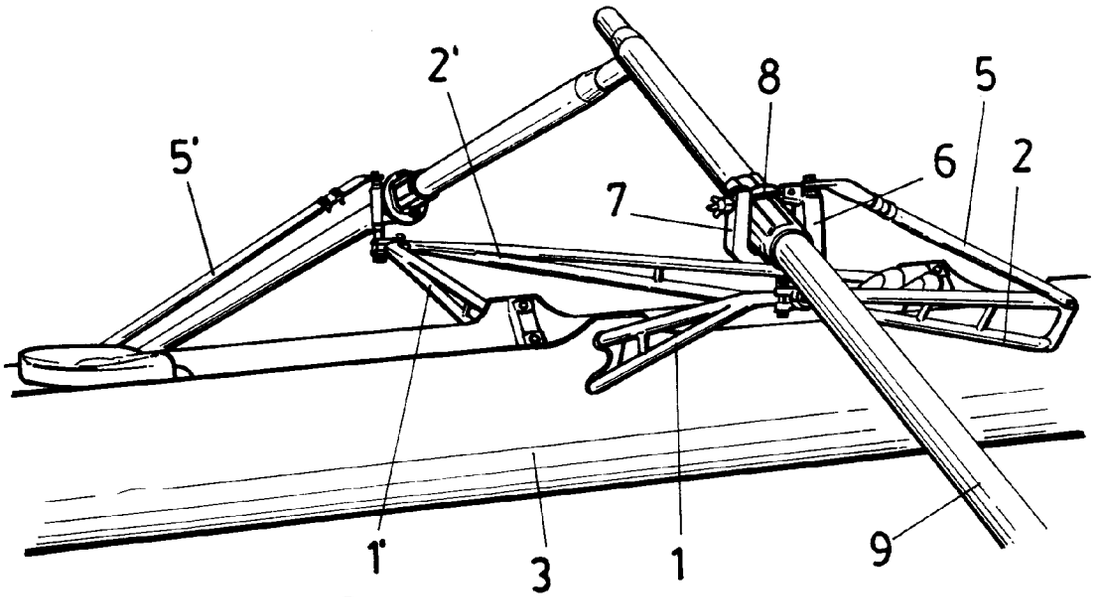

FIG.-1

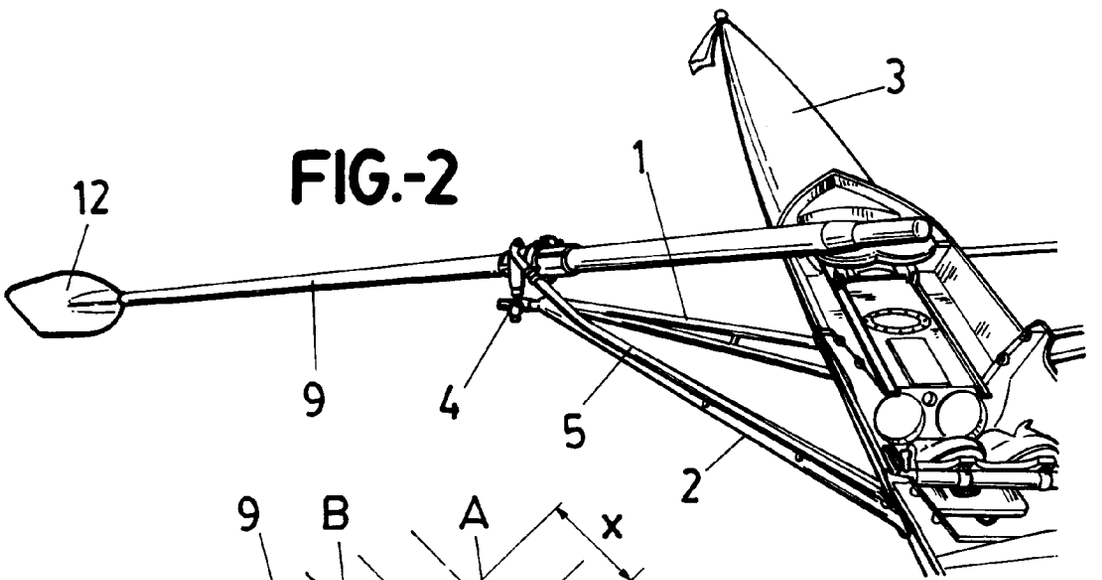

FIG.-2

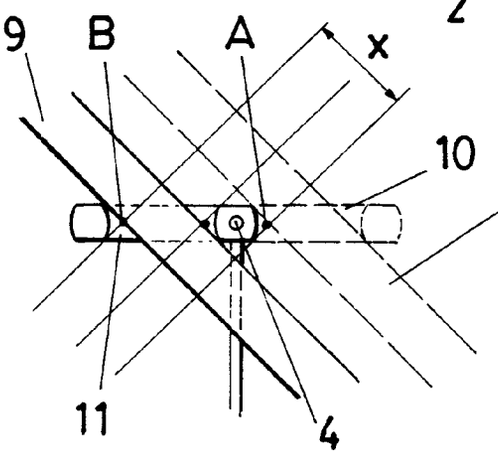

FIG.-3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 93 50 0078

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.5)
X Y	EP-A-0 217 090 (BERGERMANN) * the whole document *	1 2	B63H16/06
Y A	GB-A-177 665 (KITCHIN) * page 3, line 26 - line 53; figures 1,2 *	2 1	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)
B63H B63B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	06 OCTOBER 1993	DE SENA A.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P0401)