

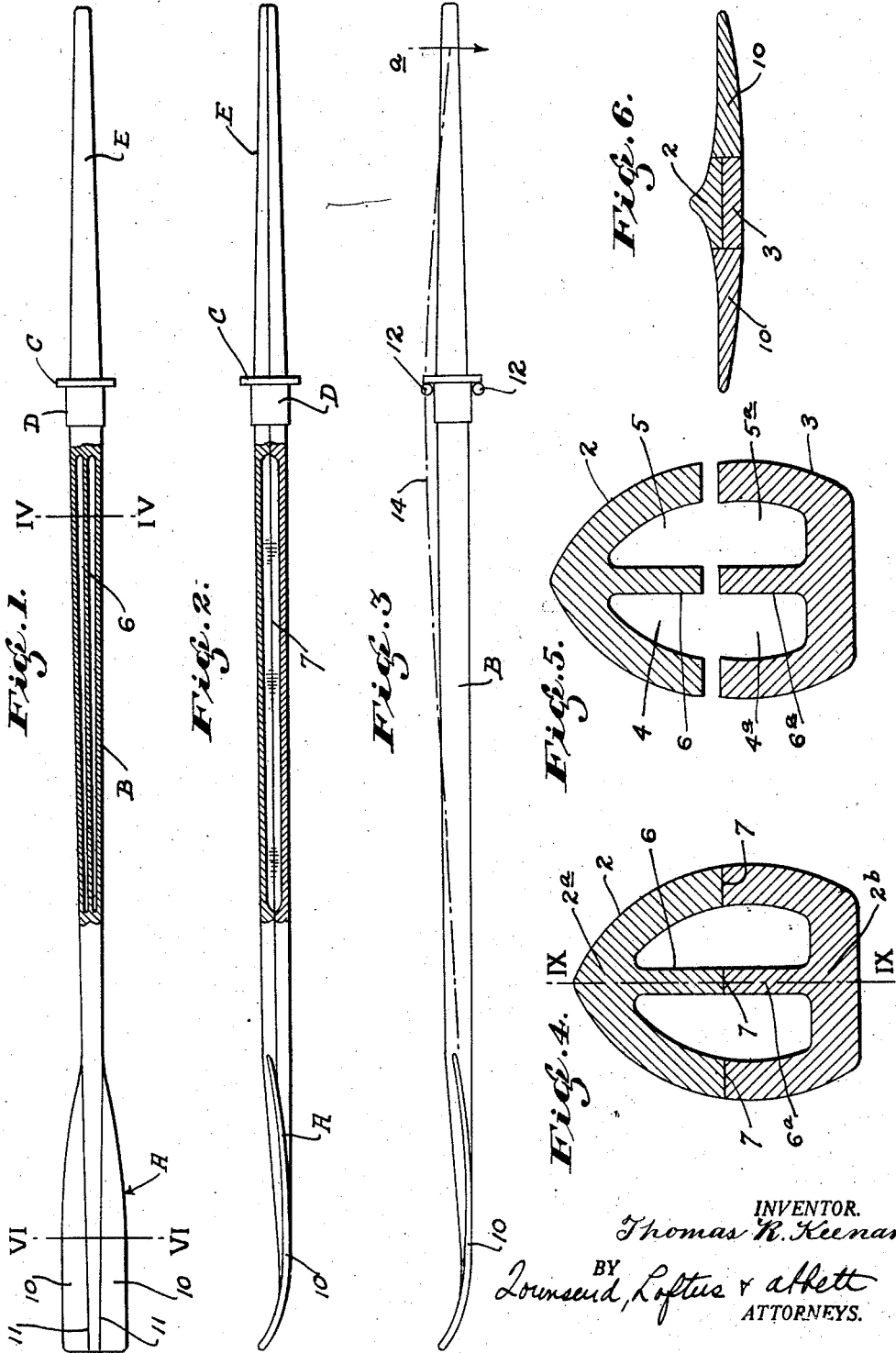
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OAR

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OAR

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This invention relates to boat oars, and especially to that type used in racing boats, where such qualities as rigidity, light weight, and strength are essential requisites.

5 Heretofore many attempts have been made to construct a light rigid oar for racing purposes, the general lines of attempt being that of first grooving the exterior surface of the loom, and second, grooving the interior to form a tubular loom. The first structure materially lightens the oar without reducing its strength but the grooves form a corrugated surface which collect dirt and it furthermore produces considerable resistance when rowing against wind and waves. The second structure reduces weight, and in addition leaves a smooth exterior surface, but it requires a loom which is built up of several sections of wood grooved and glued together. 20 Such a structure is costly, and there is a tendency towards warping the loom.

The object of the present invention is to generally improve and simplify the construction and operation of oars of the character described, to provide an oar in which the loom is of the tubular type so as to provide a smooth exterior surface, and further to provide an oar in which the loom consists of only two sections which are grooved to form a cross section of substantially I-beam shape and which will require only a single glued joint. 25

The oar is shown by way of illustration in the accompanying drawings, in which:

35 Fig. 1 is a plan view of the oar, said view being partially broken away and being shown partially in section,

Fig. 2 is a side elevation or edge view of the oar, this view being also partially broken away and partially in section,

40 Fig. 3 is a diagrammatic view of the oar,

Fig. 4 is a cross section of the loom taken on line IV—IV of Fig. 1,

Fig. 5 is a similar view showing the two sections of the loom separated,

45 Fig. 6 is a cross section of the blade taken on line VI—VI of Fig. 1.

Referring to the drawings in detail, particularly Figs. 1, 4, 5 and 6, A indicates in general the blade of the oar, B the loom, C the button, D the cuff connected therewith, and E

the handle or inboard section of the loom. The loom consists of two sections, generally indicated at 2 and 3. The section 2 is interiorly grooved, as indicated at 4 and 5, and they are separated by a central web or cross piece 6. The loom section 3 is similarly grooved, as indicated at 4^a and 5^a and these grooves are separated by a central section or cross piece 6^a. The grooves may be formed in any suitable manner, and they extend from the cuff D to the blade portion, as shown in Fig. 1. The handle portion of the loom may also be grooved in a similar manner, but it is preferably left solid, so as to produce an oar of proper balance. The two sections of the loom are glued together along the line indicated at 7, see Fig. 4. The loom is accordingly made in two halves or sections, which are secured together by means of a single glue joint, and it should furthermore be noted that this glue joint is parallel to the lines of stress produced when the oar is in actual use, as will hereinafter be described. 55

When the two sections of the loom, 2 and 3, are assembled and glued together, the cross pieces 6 and 6^a join each other and they thus form a central brace which extends from the cuff to the blade, thus materially strengthening it, as the line of stress when the oar is in use is cross wise of the cross piece, or in the direction of the dotted line indicated at IX—IX, see Fig. 4. The sections 6 and 6^a form the web of the I-beam while the portion 2^a forms one web and the section 2^b the other web of the beam. 60

The cheeks of the blade, indicated at 10, 10 may be formed integral with the loom sections, or they may be glued thereto along the lines indicated at 11, the structure of the blade being merely a matter of choice. 65

In actual operation, referring to Fig. 3, when an oar is being used, it is supported in an oar lock indicated by full lines at 12. The oarsmen grasp the handle section E, and pull thereon in the direction of arrow *a*. The blade A is at that time submerged just below the surface of the water, and when a heavy pull is exerted on the handle the loom between the cuff and the blade tends to bend, as indicated by the dotted line 14. The glue 100

joint between the loom sections 2 and 3 is vertical with relation to the line of bending moment, and as such is subjected to a comparatively small amount of stress. The cross piece consisting of the sections 6 and 6^a is disposed at right angles to the glue joint and bending moment or stress is thus exerted crosswise thereof. In this manner a rigid, light oar is obtained.

Oars have heretofore been made in which the loom is glued up of three sections. Two glue joints are required in such structures, and the glue joints are furthermore disposed at right angles to the line of bending moment. They will accordingly be placed in a position where they absorb the stress cross wise of the glue joint, or where a sheer action is produced. This is not desirable as the glue joint is comparatively weak when subjected to sheer, furthermore, by providing a structure which requires two glue joints which are arranged in this manner, it has been found that there is a tendency to warp the loom, thus bringing the blade out of alignment with the loom. This is of course also objectionable.

By constructing the oar as here shown, the glue joint is merely subjected to a bending moment when the oar is under stress, this being the ideal method of applying stress to a glue joint. Furthermore, by disposing the glue joint parallel to the blade warping tendencies are reduced and alignment of the oar is maintained.

While certain features of the present invention are more or less specifically described, I wish it understood that various changes may be resorted to within the scope of the appended claims, similarly, that the materials and finishes of the several parts employed may be such as the manufacturer may decide, or varying conditions or uses may demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. An oar of the character described, comprising a loom and a blade, said loom being divided longitudinally into two halves which extend from the handle end of the loom to the tip of the blade, said halves presenting adjoining flat faces parallel with the face of the blade, and each flat face having a pair of spaced grooves cut therein forming a central cross piece disposed at right angles to the flat face of the blade.

2. An oar of the character described comprising a loom and a blade, said loom being divided longitudinally into two halves which extend from the handle end of the loom to the tip of the blade, said halves presenting adjoining flat faces parallel with the face of the blade, each flat face having a pair of spaced grooves cut therein forming a central cross piece disposed at right angles to the flat face

of the blade, and a glue joint formed between the grooved flat faces of the loom.

3. In an oar of the character described a loom divided centrally and longitudinally in two halves and secured together by a glue joint, each half section of the loom being provided with two interspaced grooves forming, when the half sections are joined, a pair of interior channels separated by a cross piece, said channels and cross piece extending substantially from end to end of the loom and being disposed at right angles to the flat face of the blade on the oar and the glue joint being parallel to the flat face of the blade.

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