

T. H. SHEA.
OAR.

APPLICATION FILED FEB. 11, 1909.

1,003,069.

Patented Sept. 12, 1911.

2 SHEETS-SHEET 1.

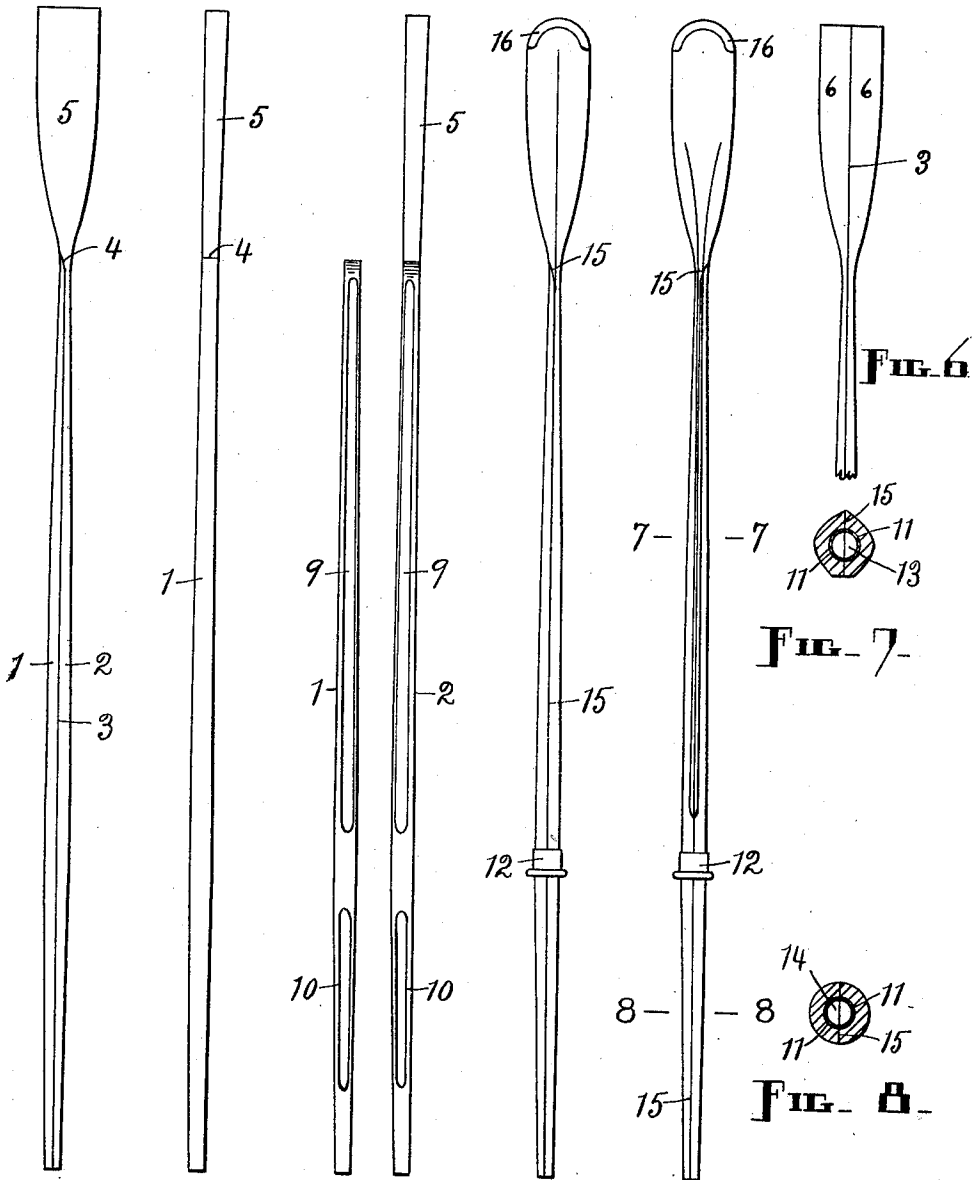


FIG. 1. FIG. 2. FIG. 3. FIG. 4. FIG. 5.

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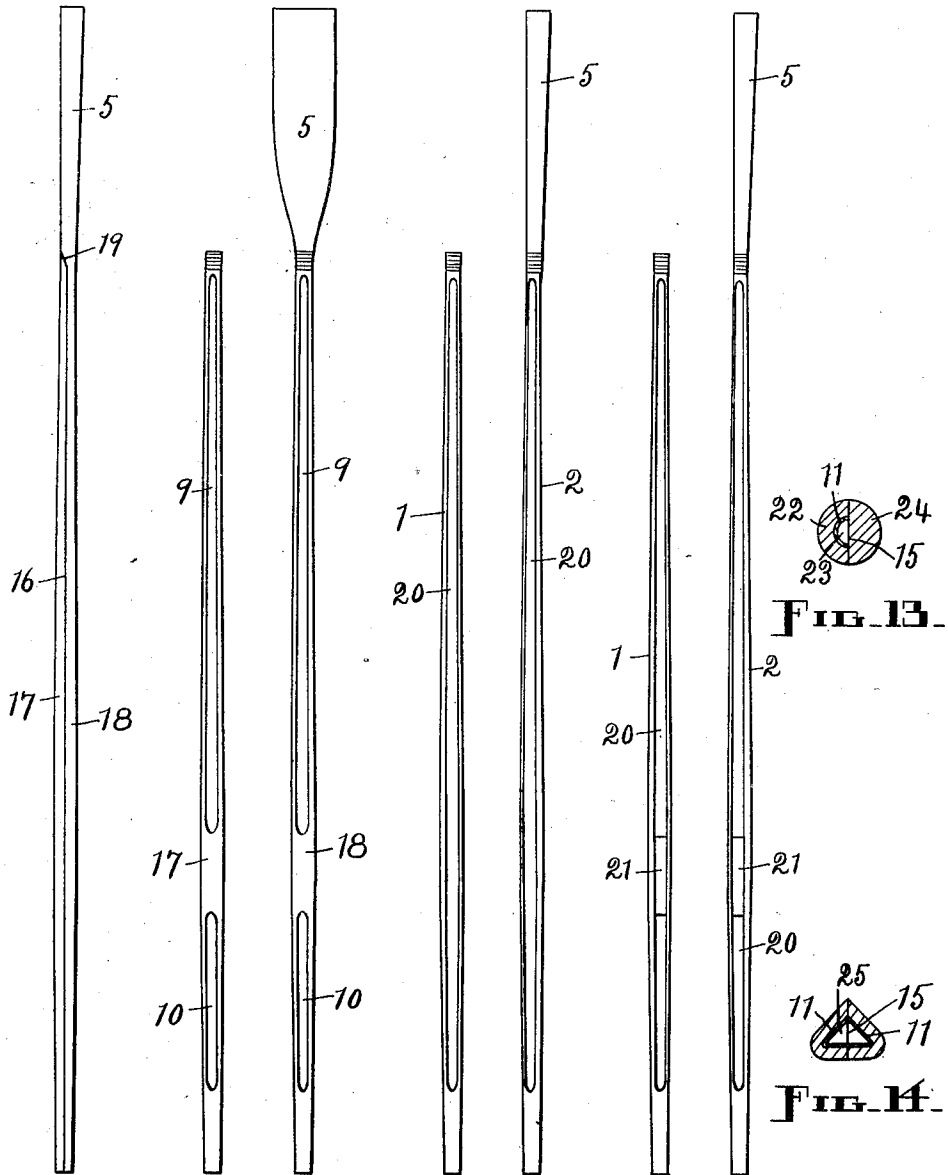


FIG. 9.

FIG. 10.

FIG. 11.

FIG. 12.

FIG. 13.

FIG. 14.

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UNITED STATES PATENT OFFICE.

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OAR.

1,003,069.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, TIMOTHY H. SHEA, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Oar, of which the following is a specification.

My invention relates to improvements in oars especially designed for racing boats, naval boats, and the like, in connection with which the demand calls for very long oars in which strength must necessarily be combined with lightness, and to this end I have produced a hollow oar made in two parts cemented together or otherwise permanently united, as hereinafter set forth.

The object of my invention is to provide an oar, for the purpose or of the class above noted, which is of the lightest possible nature commensurate with the necessary degree of strength, is sufficiently flexible or elastic, and possesses superficial surfaces which are smooth and to all intents and purposes unbroken and intact. I attain this object by the means illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of two sections in the rough or of a divided blank out of which the oar is made; Fig. 2, a left-hand side elevation of said sections as they appear in the preceding view; Fig. 3, a view of the interior of such sections as they would appear if turned outward on their dividing line toward the beholder, showing the grooves therein; Fig. 4, a front elevation of a finished oar; Fig. 5, a rear elevation of such oar; Fig. 6, an elevation of the upper portions of two associated blank sections similar to those illustrated in Fig. 1 excepting that the line of division extends straight up through what in the other case is a single blade-forming member, instead of being turned to one side as in that case; Fig. 7, an enlarged cross-section of the oar, on lines 7—7, Fig. 5; Fig. 8, an enlarged cross-section on lines 8—8, Fig. 5; Fig. 9, an elevation similar to Fig. 2, illustrating a different way of cutting a blank into two sections; Fig. 10, an interior view of said last-mentioned sections after being grooved; Figs. 11 and 12, views similar to Fig. 3, but showing different arrangements or forms of grooves; Fig. 13, an enlarged cross-section through an oar one section only of which is grooved, and, Fig. 14, an enlarged cross-section through the

outboard loom portion of an oar, which is substantially triangular.

Similar characters of reference designate like parts throughout the several views.

As a preliminary step in the manufacture of my oar, I take an ordinary oar blank and saw it through the center of the loom portion and either out through one side or straight through the blade portion. In this way I produce two loom sections 1 and 2, divided on a cut line 3 which turns outward at 4 to sever the section 1 from a blade portion 5 which latter is thus left intact on or at the adjacent end of the section 2, particular reference being had to Figs. 1, 2 and 3; or else, as shown in Fig. 6, the two loom sections have two blade sections 6 at their outboard ends, the cut line 3 being here continued straight to form said blade sections. The former method of cutting apart the blank is generally to be preferred, since the blade of the oar which is subsequently made out of the uncut blade portion 5 is free from the joint that must necessarily be formed in the blade which is subsequently made out of the two sections 6. The cut line at 4 may be just as well directed outward through the opposite side so that the loom sections 1 and 2 will be transposed.

Both of the loom sections 1 and 2, produced in the manner above described, are channeled, grooved, or hollowed out on the inside, there being by preference a groove 9 in the outboard portion of each of said sections and a groove 10 in the inboard portion of each of said sections as shown in Fig. 3. For an oar the outboard portion of the loom of which is of the general shape in cross-section shown in Fig. 7, wherein the front of the loom is brought to a sharp edge externally at the center, the grooves 9 should be situated nearer the back-side edges of the loom sections 1 and 2 than the front-side edges thereof, as clearly illustrated in Fig. 3, in order to leave sufficient stock all around such grooves; and the grooves 10 are similarly situated or located approximately in line with said first-mentioned grooves, which brings them in the center of the inboard portion of the loom in the finished oar, as will be plainly seen upon referring to Fig. 8.

For the purpose of strengthening the hollow portions of the oar, also to assist in the preservation of such portions and particu-

larly in the preservation of the inner surfaces of the grooves, I line said grooves with burlap or other suitable material, the same being glued, cemented, or otherwise tightly and permanently affixed within the grooves to all sides thereof. Such linings appear at 11, in Figs. 7, 8, 13 and 14. In place of the burlap or some other equally good fabric, aluminum or hard wood might be employed, but I have found nothing which is as good for the purpose as fabric. Spruce is used for these oars almost exclusively, and without linings of some kind in the hollow portions collapse at these points under a severe strain or blow would be very liable to occur.

After being grooved, the oar-blank sections are firmly, thoroughly, and permanently united along their dividing line, so that they occupy practically the same relation to each other that they did originally, the linings 11, if used being applied, of course, before such union of said sections takes place. The adhesive material or materials employed for cementing the oar-blank sections together should enter intimately into combination with the wood and possess exceedingly strong adhesive properties and great powers of resistance and endurance as well as being waterproof. The new blank thus formed and now hollow in the outboard and inboard parts of the loom portion, is worked down into an oar of the shape and style desired, and a button 12 is supplied the same being applied to the row-lock portion of the loom, which portion is intermediate of the two channels 13 and 14, Figs. 7 and 8, produced in said loom by the two pairs of grooves 9 and 10, respectively. The button 12 may be of any suitable material and construction.

Opposite sides of the complete oar are represented in Figs. 4 and 5, in which the line of union or cement line between the two sections which together constitute the oar appears at 15. The blade of the oar may be of the ordinary angular form at its outer end, or such end may be rounded as shown.

16 represents a metallic cap or tip on the blade of the oar.

An oar, such as is herein shown and described, can be made as light and graceful as good judgment and taste may determine, and this without sacrificing needed strength and durability or destroying elasticity.

It is conceivable that the oar blank might be severed on a plane at right-angles to that in the first case, but an oar made from sections thus divided and then united would not, it is believed, be as strong as an oar having the plane of its joint or the major part of such plane at substantially right-angles to the broad aspect of the blade. The

cut line cannot extend through the blade portion of the blank, in the case now under consideration, owing to the shape which such portion has to assume when transformed into the blade and to the thinness required for such blade, but must turn outward through either the front or back side, generally the latter, of the blank at or adjacent to the junction of the blade portion with the loom portion.

In Figs. 9 and 10, two loom sections, divided by a cut line 16 which is deflected to the rear through the back side of the blank at the base of the blade portion 5, are represented at 17 and 18, the deflected part of said cut line being indicated at 19. The blade portion 5 is integral with the loom section 18, and both loom sections are grooved like the loom sections 1 and 2, although differently arranged grooves might be provided. In Figs. 11 and 12, a continuous or single groove 20 is cut in each loom section, but in Fig. 12, a block 21 is employed to separate the outboard loom portion from the inboard loom portion for the purpose of stiffening the loom at the row-lock portion. An oar constructed out of the first of these sections would probably be too weak for most purposes, while an oar constructed out of the second set of such sections would possess no particular advantage over the construction shown in the first five views, and it is doubtful if it would be as good in many respects. The next view is furnished merely to show that a two-section oar might be made with the channel or channels in one section only, 22 representing a loom section in which is a groove or channel 23, and 24 a solid loom section cemented to said section 22. The grooves in the divided sections of a loom blank may be semi-circular, or approximately so, transversely, with rounded ends, or they may be angular, or of any other shape that will conform more or less closely to the contour of the finished loom. In the last view, wherein the outboard portion of the loom which there appears is generally triangular in cross-section, the channel 25 therein is of corresponding shape.

It is plainly to be seen, from the foregoing, that my oar can be constructed in various ways, provided the two-piece loom with the channel or channels and the longitudinal joint therein be present.

I am well aware that an effort has heretofore been made to construct an oar having the loom formed of hollow, tubular, metallic material. I am also aware that an effort has heretofore been made to manufacture an oar by molding the same from paper pulp, in which construction an effort has been made to form the loom in open-work or hollow form, and that an effort has been made to construct an oar with the loom

portion channeled wholly from one side of the loom and with a cover fastened over the open channel. All these constructions, however, have proved to be impracticable, as they have not resulted in producing an oar of the desired uniformity, shape, rigidity and elasticity required.

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

1. As an improved article of manufacture, an oar having a two-piece hollow loom with the joint extending longitudinally approximately through the center.

2. As an improved article of manufacture, a two-piece oar having a hollow loom with the joint extending longitudinally through the center approximately of such loom and outwardly at the base of the blade.

3. As a new article of manufacture, an oar comprising two loom sections united on an approximately central line longitudinal of the loom, with a blade in its entirety at one end of one of said sections and integral therewith.

4. As a new article of manufacture, an oar comprising two interiorly-channeled

loom sections united substantially on a central line longitudinal of the loom.

5. As a new article of manufacture, an oar comprising two loom sections united on an approximately central line longitudinal of the loom, the loom thus formed having separate internal channels in its outboard and inboard portions, and a blade in its entirety at one end of one of said loom sections and integral therewith.

6. As a new article of manufacture, an oar comprising two interiorly-channeled loom sections united on an approximately central line longitudinal of the loom, and lining material in the channeled portions of said loom.

7. A wood oar having a hollow loom with a textile lining cemented to the inner walls of the recess, substantially as shown.

8. A wood oar having a hollow loom and having flexible material cemented to the inner walls.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."