No. 805,033. PATENTED NOV. 21, 1905.

W. H. SMYTH & W. B. GOODWIN.

OAR.

APPLICATION FILED MAR. 10, 1903.

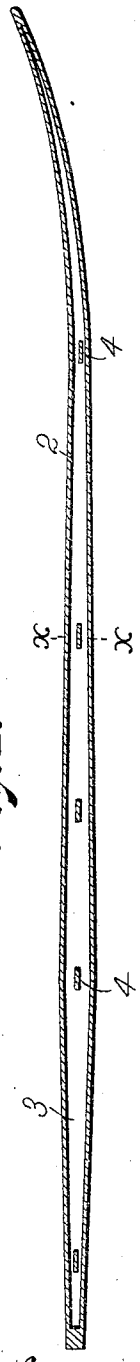


Fig. 1.

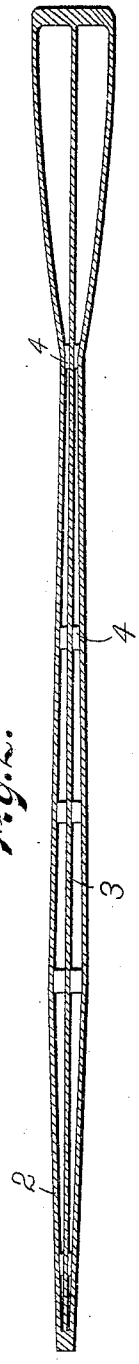


Fig. 2.

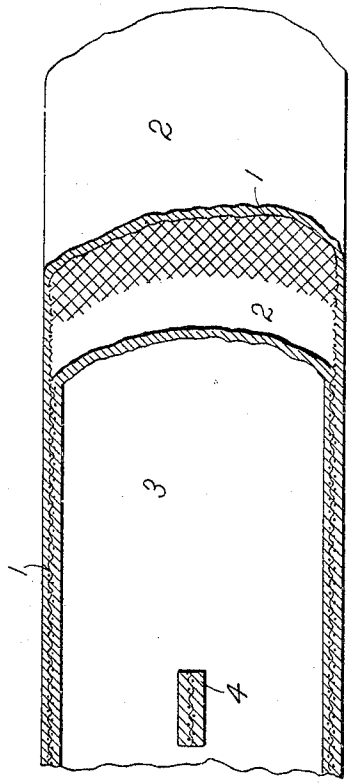


Fig. 4.

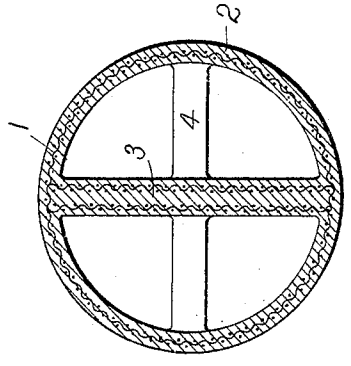


Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM H. SMYTH, OF BERKELEY, AND WILLIAM B. GOODWIN, OF SAN FRANCISCO, CALIFORNIA; SAID SMYTH ASSIGNOR TO SAID GOODWIN.

OAR.

No. 805,033. Specification of Letters Patent. Patented Nov. 21, 1905.

Application filed March 10, 1903. Serial No. 147,175.

To all whom it may concern:

Be it known that we, WILLIAM H. SMYTH, residing at Berkeley, in the county of Alameda, and WILLIAM B. GOODWIN, residing in the city and county of San Francisco, State of California, citizens of the United States, have invented certain new and useful Improvements in Oars; and we do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to a new article of manufacture in the form of an oar especially adapted for use in racing-boats in which the qualities of rigidity, strength, and lightness are essential requisites. Heretofore many attempts have been made to construct oars for this character of service possessing the required qualities without much if any improvement upon the ordinary oar made of strong and tough selected wood. Owing, however, to the flexibility of such oars it has been necessary to make them unduly heavy to counteract their liability to bending and springing.

The object of the present invention is to provide an oar possessing the desired qualities of strength and rigidity and at the same time to construct it in such a manner and of such material as to be lighter than oars at present constructed—in other words, to provide an oar possessing greater strength and rigidity for less weight of material than those at present employed. These objects are accomplished by means of the construction and materials illustrated in the accompanying drawings and set forth in the specification.

Referring to the drawings, Figure 1 is a longitudinal section of an oar. Fig. 2 is also a longitudinal section at right angles to Fig. 1. Fig. 3 is a transverse section through *x x* of Fig. 1. Fig. 4 is a view, on enlarged scale, of a portion of the oar, showing its construction.

The oar constructed in accordance with the present invention is formed of two distinct characters of material, one of which possesses great tensile strength and the other of character to resist compressive strains. For the former we employ, as shown, metallic mesh 1 and for the latter preferably paper-pulp or other moldable material 2, the metallic mesh being embedded in the other material. The oar may be made of any suitable section, though we preferably construct it hollow with internal braces consisting of a longitudinal rib 3 and cross-struts 4 at suitable intervals, as shown in the drawings.

Owing to the character of the material employed not only the loom but the blade may be made hollow and provided with internal stiffening-ribs, thus constituting an oar of great stiffness and rigidity having a maximum capability to resist bending, while at the same time possessing the equally-desirable quality of extreme lightness.

Though paper-pulp is deemed the preferable material on account of facility for manufacture, other materials may be employed in connection with the wire mesh. Paper or fabric in the form of strips or sheets, in connection with adhesive material, wound in successive layers on opposite sides of the metallic mesh may be substituted for the preferred form. We therefore do not desire to confine ourselves to any particular character of material or form of construction other than the incorporation in a matrix material of a metallic mesh.

What we claim is—

1. An oar or analogous appliance formed of a matrix material having embedded therein a metallic mesh.

2. An oar or analogous appliance of hollow section formed of a matrix material having embedded therein a metallic mesh.

3. An oar or analogous appliance formed of a matrix material having embedded therein a metallic mesh and provided with internal braces.

4. An oar or analogous appliance of hollow section formed of a matrix material having embedded therein a metallic mesh and provided with internal braces.

5. An oar or analogous appliance formed of a matrix material having embedded therein a metallic mesh and provided with a hollow blade.

6. An oar or analogous appliance formed

of a matrix material having embedded therein a metallic mesh and provided with a hollow blade having internal braces.

7. An oar constructed of mesh material attached to or embedded in a material of less tensile strength.

8. An oar or analogous appliance formed of tubular section provided with internal longitudinal stiffening-ribs.

9. An oar or analogous appliance formed of tubular section provided with internal stiffening-ribs.

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