No. 684,868. Patented Oct. 22, 1901.

J. A. ROBISON.

OAR.

(Application filed Feb. 1, 1901.)

(No Model.)

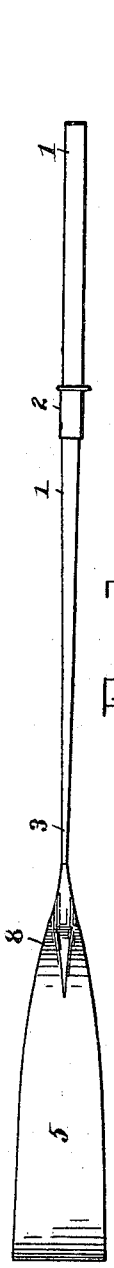


Fig. 1.



Fig. 2.

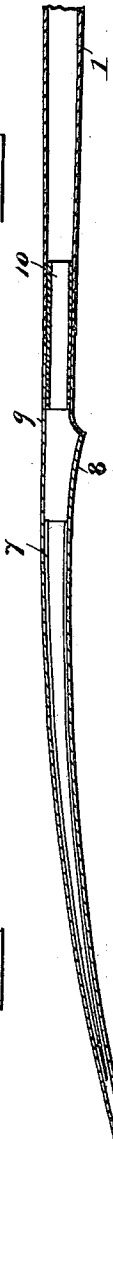


Fig. 3.

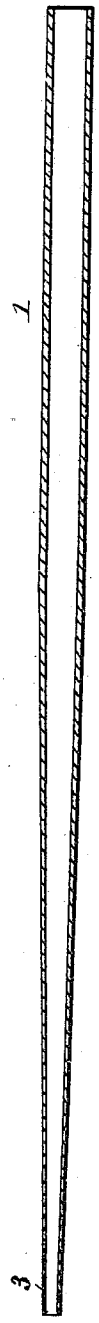


Fig. 4.



Fig. 5.

Fig. 6.

WITNESSES.

O. B. Barnziger.

H. E. Godin.

INVENTOR.

James A. Robison

By R. B. Wheeler & Co.

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES A. ROBISON, OF DETROIT, MICHIGAN.

OAR.

SPECIFICATION forming part of Letters Patent No. 684,868, dated October 22, 1901.

Application filed February 1, 1901. Serial No. 45,553. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. ROBISON, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Oars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a tubular metallic oar; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide a tubular metallic oar of simple and inexpensive construction in which the arrangement is such as to give the proper shape and dimensions and afford with a minimum weight the maximum strength and buoyancy.

The above object is attained by the structure illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of an oar embodying my invention. Fig. 2 is an enlarged edge view of the blade, parts of the handle of the oar being broken away. Fig. 3 is a transverse section through the blade of the oar, as on line 3 3 of Fig. 2. Fig. 4 is an enlarged longitudinal section through the oar-blade and a portion of the handle, showing the manner of uniting the handle and blade. Fig. 5 is a longitudinal section through the handle of the oar, showing the tapering diameter of the handle and the tapering wall thereof. Fig. 6 is a perspective view of the blade of the oar.

In forming an oar of a hollow steel tube having a hollow steel blade an oar of greater strength is produced than the common wooden oar, which is at the same time much lighter. It is essential, however, that a steel or metallic oar shall have sufficient buoyancy to float upon the water, as an oar often becomes disengaged from the oar-lock or by accident is dropped into the water, when if the oar will not float it may become lost beyond recovery and place the occupant of the boat at a great disadvantage.

It has been demonstrated that a solid metal blade is too heavy to be floated by the tubular handle of the oar without making the handle too large for practical use. By forming the blade of the oar with an air-chamber therein said blade is rendered sufficiently buoyant to more than maintain itself upon the surface. At the same time it is rendered lighter and stronger, because of the fact that the double walls of the blade are so placed as to give added strength thereto while decreasing the weight of the blade.

An oar constructed as herein shown is one-third lighter than the common wooden oar and possessed of much greater strength and efficiency, enabling the rower to use the oars with less expenditure of energy.

An oar constructed of steel tubing is much more elastic than a wooden oar and may be so tapered to the point of union with the blade as to render it so small that it offers but little resistance when entering and leaving the water and yet possesses a strength in excess of the wooden oar. By tapering the wall of the oar from the roll to the shank or heel great strength is provided at the point where the resistance is greatest and a diminution in weight produced, as the oar extends to the point where buoyancy is required. The blade of the oar is also free from projections, causing it to enter and leave the water easily and without splashing, and because of the lightness and buoyancy of the blade feathering and recovery are greatly facilitated.

Referring to the characters of reference, 1 designates the handle or loom of the oar, which is preferably made of steel tubing and may be of such length as the conditions require. Mounted upon the exterior of the oar is a leather roll 2, adapted to be embraced by the oar-lock, as will be well understood. The body or handle of the oar, as will be seen, is a hollow tubing of the requisite gage and is made to taper toward the heel 3, so as to reduce it to the proper diameter at the point where it is attached to the blade. The wall of the tubing is of requisite gage and is made to taper from a point adjacent the roll to the reduced or tapered end, as shown in Fig. 5, affording the greatest strength at the point of greatest resistance and increasing the buoyancy of the oar as it extends toward the blade.

In order that the blade of the oar may have sufficient displacement to cause it to float, it is formed of a double wall, producing between said walls an air-tight float-chamber 4. The general shape of the blade, as will be seen, is spoon-shaped and is slightly concavo-convex in cross-section. The face 5 of the blade is nearly straight, while the back 6 thereof is rounded or curved, as shown in Fig. 3. The walls of the blade are united or made contiguous at the margin thereof, forming a comparatively sharp edge, which is possessed of considerable strength, owing to the double thickness of the blade at that point. In the center of the blade the walls stand some distance apart, affording the air-chamber 4, as before described, and to provide for strengthening said walls, so as to prevent a collapsing thereof, and to give the requisite stiffness to the blade an internal rib 7 is employed, which extends longitudinally of the blade and supports the opposite walls of said chamber, as also shown in Fig. 3. This rib may be of any suitable formation, and more than one rib may be employed, if found expedient. Said rib or ribs may be secured to the walls of the blade by brazing or in any other suitable manner. The face of the blade at the point where it tapers toward the handle is provided with a raised bead 8, struck from the wall of the blade, whereby additional strength is provided at that point. The shank 9 of the blade is made round to correspond with the heel 3 of the handle of the oar, and said parts are caused to abut and are united by a reinforcing-bushing 10, (see Fig. 4,) which crosses the joint between said parts and is brazed thereto, effecting a strong and perfect attachment of the blade to the oar-handle.

An oar constructed as herein described is very strong and is one-third lighter than a wooden oar of the same length, rendering the oar sufficiently buoyant to readily float and at the same time producing an oar that is much more durable than a wooden oar, because of the fact that it will not check or warp or become water-logged and will not become abraded and chipped, so as to retard it in its movement through the water.

This oar may be enameled or otherwise treated to prevent rust and corrosion, and because of its extreme lightness and the smoothness and sharpness of its blade it is much more efficient to the rower than is a wooden oar.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A metallic oar, provided with a chamber continuous in the blade and in the handle.

2. An oar having a hollow metallic blade, concavo-convex in cross-section, and provided with an air-tight float-chamber therein, an interior rib for strengthening the walls of said float-chamber, and the main exterior faces of the blade presenting smooth, unobstructed surfaces.

3. A metallic oar, comprising a hollow handle and a blade with a float-chamber therein, the blade being jointed to the handle and a reinforcing-bushing crossing said joint and extending into the interior of said parts.

4. A metallic oar, provided with a tapering hollow handle and a hollow blade.

5. In combination a tapering hollow handle, a hollow blade joined thereto and a reinforce inserted in the tapered portion of the handle.

6. A metallic oar, comprising a hollow handle and a hollow blade, each having a float-chamber therein, the blade being joined to the handle to effect a rigid union of said chambered parts.

In testimony whereof I sign this specification in the presence of two witnesses.

JAMES A. ROBISON.

Witnesses:
E. S. WHEELER,
C. E. JOSLIN.