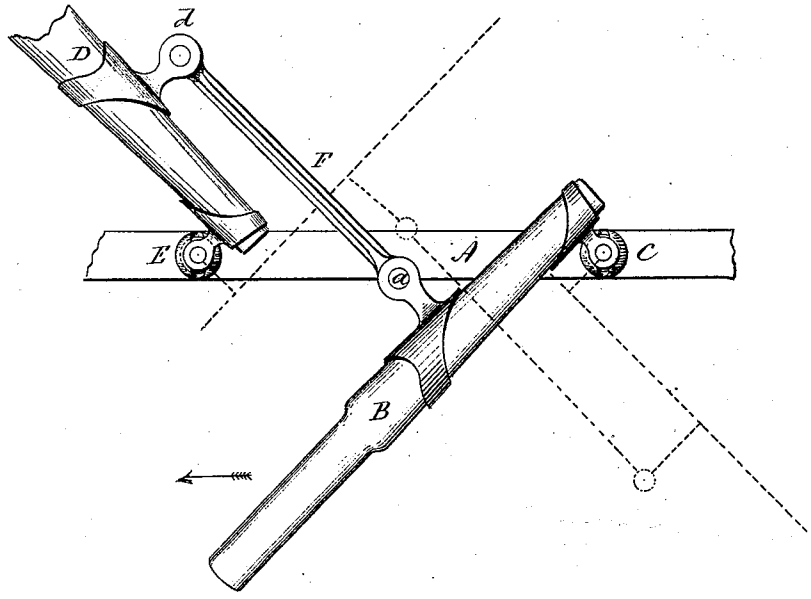
W. LYMAN.

Oars.

No. 169,277. Patented Oct. 26, 1875.



Witnessed
H. C. Shumway
Clara Broughton

William Lyman
By atty's Inventor
John E. Earle

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM LYMAN, OF MIDDLEFIELD, CONNECTICUT.

IMPROVEMENT IN OARS.

Specification forming part of Letters Patent No. **169,277**, dated October 26, 1875; application filed July 31, 1875.

To all whom it may concern:

Be it known that I, WILLIAM LYMAN, of Middlefield, in the county of Middlesex and State of Connecticut, have invented a new Improvement in Rowing-Gear; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent a plan view.

This invention relates to an improvement in the arrangement of oars for the purpose of rowing, the object being to row a boat in the same direction toward which the oarsman is facing; and the invention consists in constructing the oar in two parts, the one part forming the handle, jointed by a ball or universal joint to the gunwale, and the other or oar part jointed in like manner to the gunwale forward, and the two parts united by a connecting-rod hinged to the handle inside the joint, and to the oar outside the joint, so that the oar moves in the same direction as the handle, as more fully hereinafter described.

A represents the gunwale of a boat, or that part to which the rowlock is usually attached. B is the handle portion of the oar, which is of the usual length from the rowlock inward. The outer end is hinged to the boat by a ball or universal joint, C, so that the oarsman, taking hold of the handle, may move the handle forward and back, and in the path substantially the same as a common oar. D is the oar proper, its upper or inner end hinged to the boat by a ball or other universal joint, E, forward of the joint C of the handle part. F is a connecting-rod, jointed to the handle part at *a* inside the joint C, and to the oar part outside the joint E, as at *d*, the hinge on the two parts being, by preference, equidistant from their respective joints, so that the movement of the oar will be the same as that of the handle.

The oarsman, facing forward, takes the handle B in hand, and operates it in the usual manner for working oars. Drawing back the handle draws back the oar, as denoted in broken lines.

The joints *a d* are sufficiently tight, so that lowering the inner end of the handle will raise the oar, and vice versa, and so that throughout the movement the oarsman carries the handle the same as in a common oar. Owing to this arrangement of the joints the leverage of the handle upon the oar increases from the start to the completion of the stroke, the oar moving faster as it starts, and diminishing gradually to the close of the stroke.

I am aware of the arrangement of oars as described in Patent No. 66,847, and therefore do not wish to be understood as claiming anything shown in said patent.

I claim—

The combination of the two parts B D, the part B hung to the gunwale by a ball-joint at its outer end, the part D hung to the gunwale by a ball-joint at its inner end, and the connecting-rod F jointed to the part B inside the gunwale, and to the part D outside the gunwale, all substantially as specified.

WILLIAM LYMAN.

Witnesses:

JOHN E. EARLE,

CLARA BROUGHTON.