

(No Model.)

A. SMITH.
BOW ROWING DEVICE.

No. 546,942.

Patented Sept. 24, 1895.

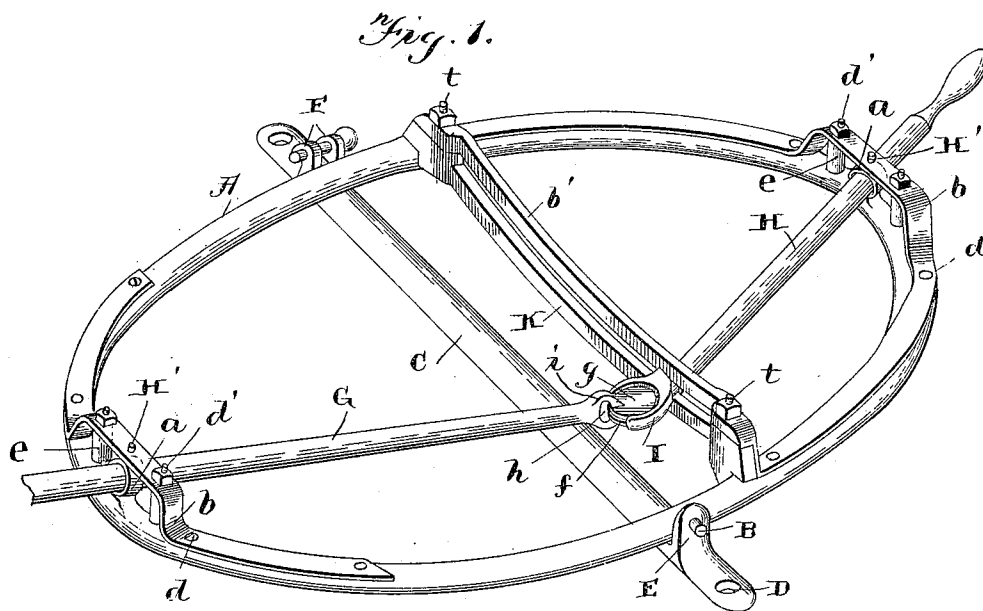
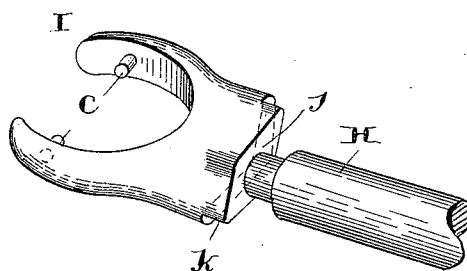
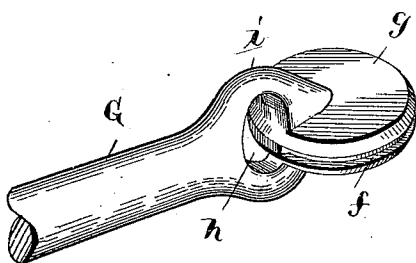


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

ANDREW SMITH, OF TRAVERSE CITY, MICHIGAN.

BOW-ROWING DEVICE.

SPECIFICATION forming part of Letters Patent No. 546,942, dated September 24, 1895.

Application filed February 12, 1895. Serial No. 538,158. (No model.)

To all whom it may concern:

Be it known that I, ANDREW SMITH, of Traverse City, in the county of Grand Traverse and State of Michigan, have invented certain new and useful Improvements in Bow-Rowing Devices; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in bow-facing oar-locks; and it consists in the construction and arrangement of parts, which will be fully described hereinafter, and particularly referred to in the claims.

The object of my invention is to provide an attachment for boats whereby the oarsman can sit facing the bow of the boat and by the same ordinary movement of the oar cause the boat to move forward.

In the accompanying drawings, Figure 1 is a perspective view of my invention complete. Fig. 2 is a detached perspective view of the universal connection between the oar and the handle.

In the drawings, A represents a frame which is preferably oval in plan, as herein shown, and this frame is provided about at its center with the laterally-projecting pivotal point B.

C is a plate or bar which is attached to the rail of the boat at its ends by means of screws D, and which has near one end the upwardly-projecting ear E, with an opening to receive one of the lateral pivotal points B, and at the other end with two projecting ears F, between which the pivotal point B at the opposite side of the frame A is placed and held in position by means of a pin passing through perforations at the upper ends of the ears, as clearly shown.

At each end of the frame A is a ring or ferrule *a*, through one of which the oar G passes, and through the other of which the handle or the upper portion of the oar H passes. Each of these ferrules *a* is provided with an upper and a lower extending pivotal point H', the upper one of which is pivotally supported in a frame *b*, which passes upward at its outer portion, and secured in place by means of the bolts *d'*. This upwardly-extending portion

of the frame *b* is held at the right elevation to permit the free turning of the ferrules *a* by means of the tubes *e*, passed around the bolts *d'*, as will be readily understood.

Extending across the frame A, just inside of the pivotal point, is a curved plate K, which has its ends riveted or bolted to opposite sides of the frame A, and the frame *b* extends rearward and has the integral cross-extending portion *b'*, which is over the portion K and separated therefrom a suitable distance to form a slideway for the inner end of the upper or handle portion H of the oar. This portion *b'* of the frame *b* is held in place by means of the bolts *t*, which pass vertically through the same. At the opposite or outer end of the frame A the frame *b* is not provided with this rear extension *b'*, for the reason that there is no necessity for a slideway for the other portion of the oar, as will appear when the invention has been fully described.

The outer end of the upper or handle portion H of the oar is provided with a yoke I, and this yoke has inwardly-projecting pins *c*, which extend into an annular groove *f*, formed around a circular head *g* at the upper end of the oar portion G.

The upper end of the oar G is provided with an opening *h*, just inside of the circular portion *g*, by means of the arms *i*, which have their ends connected to and supporting the portion *g*. The object of this opening *h* is to permit the ends of the yoke I to pass between the circular portion *g* and the upper end of the oar G as the same is reciprocated back and forth.

The outer portion of the upper part H of the oar is provided at its under side with a groove *j* to receive the upper surface of the plate or bar K extending across the frame A, and on its upper side with a groove *k*, which receives the under edge of the rear portion *b'*, and by means of which the handle portion H of the oar is guided in its movement horizontally back and forth.

It will be seen from the above description and from the drawings referred to that the frame A holds the two parts G and H of the oar against any independent movement, so that the vertical swinging of the frame A upon its pivotal points B correspondingly raises or lowers the outer or blade portion of the oar G, as in handling an ordinary oar. It will also

be noticed that by having the inner ends of the parts G and H of the oar provided with a universal joint that the ordinary movement of the oar H will drive the boat forward, while at the same time the oarsman is facing the bow of the boat.

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

10 1. An oaring device comprising a frame, intermediately pivoted to have a vertical swing, a two part oar having its adjacent ends loosely connected, and a transverse slide-way extending across the frame, in which one part
15 of the oar is held for the purpose described, substantially as set forth.

2. An oaring device comprising a frame, intermediately pivoted, a horizontally swinging ferrule at each end, a two part oar extending
20 through the said horizontally swinging ferrule, the inner ends of the said two part oar being jointed to permit a free relative horizontal movement, a transverse slide-way across said frame, one part of the oar having
25 grooves to receive the said slide-way, substantially as shown.

3. An oaring device comprising an intermediately pivoted frame, a two part oar, one part of the oar having a yoke, the other part

of the oar a circular portion within the said yoke, one being provided with a groove and the other with a projection entering the said groove, whereby they are loosely held together, substantially as specified.

4. An oaring device comprising an intermediately pivoted frame, a guide in each end of the frame for receiving the said two parts of the oar, a transverse bar extending across the frame, and a frame *b* extending up over the guide at each end of the frame, and back
40 and across the said transverse bar or plate, substantially as specified.

5. An oaring device comprising a two part oar, one part having a yoke, the other part a circular portion within the yoke, means for
45 holding the circular portion within the yoke but permitting it a free circular movement, the part carrying the circular portion having an opening in rear of said portion to permit the passage of the ends of the yoke, and a
50 supporting frame, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW SMITH.

Witnesses:

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G. W. CURTIS.