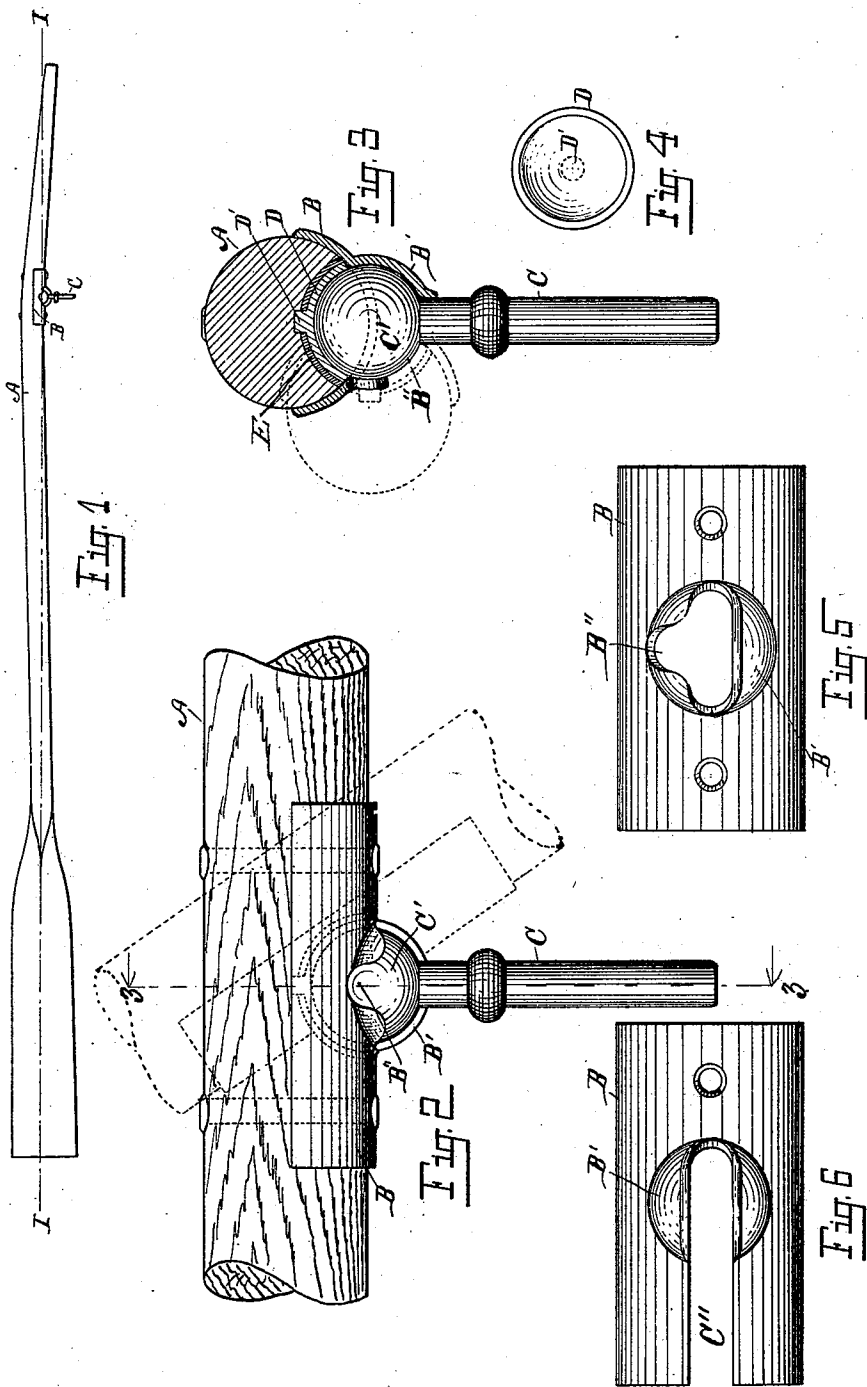


(No Model.)

J. FORBES.
OAR AND OAR LOCK.

No. 548,186.

Patented Oct. 22, 1895.



Witnesses:
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Att'y.

UNITED STATES PATENT OFFICE.

JOHN FORBES, OF PLAINWELL, MICHIGAN, ASSIGNOR OF ONE-HALF TO
JAMES B. SMITH, OF VAN WERT, OHIO.

OAR AND OAR-LOCK.

SPECIFICATION forming part of Letters Patent No. 548,186, dated October 22, 1895.

Application filed April 19, 1895. Serial No. 546,355. (No model.)

To all whom it may concern:

Be it known that I, JOHN FORBES, a citizen of the United States, residing at the village of Plainwell, in the county of Allegan and State of Michigan, have invented certain new and useful Improvements in Oars and Oar-Locks, of which the following is a specification.

My invention relates to improvements in oars and oar-locks; and my invention relates particularly to improvements in an oar-lock which I patented June 25, 1878, No. 205,372.

The objects of my invention are, first, to provide an oar in connection with an oar-lock which shall be practically self-guiding, and one in which the point of resistance and the point of application of force to the oar shall come in line, so that the oar shall work evenly; second, to provide an oar in combination with an oar-lock which shall be self-guiding, so that an inexperienced oarsman can operate the same properly; third, to provide an oar which is so constructed that an inexperienced oarsman can perform proper feathering of his oar without difficulty; fourth, to provide an oar so constructed that it shall be easy upon the hand of the operative by avoiding all tendency of the same to twist in his hands; fifth, to provide an oar and oar-lock combined having a ball-and-socket joint, which shall fit snugly and smoothly and operate perfectly; sixth, to provide a new and improved ball-and-socket joint for connecting the oar and oar-lock together; seventh, to provide in an oar having a ball-and-socket joint a convenient means of attaching the same, so that there is no weakening of the oar at the point of formation of the joint. I accomplish these objects of my invention by the devices shown in the accompanying drawings, in which—

Figure 1 is an elevation of an entire oar embodying all the features of my invention. Fig. 2 is an enlarged detail of the oar-lock and a portion of the oar to which the same is attached. Fig. 3 is a sectional view on line 3 3 of Fig. 2 looking in the direction of the little arrows, showing the operation of the oar in feathering. Fig. 4 is a detail view of the part D, which is inserted into one side of the oar. Fig. 5 is a detail view of the part B, which forms the lower portion of the socket

for the head C' of the rowlock; and Fig. 6 is a detail view of a modified construction of the under socket-piece for the ball-and-socket joint.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A represents the oar, on the under side of which is formed my improved ball-and-socket joint for the oar-lock. The handle of the oar is bent slightly down, and a line extending through the center of the blade of the oar and through the center of the joint and extended will pass through the upper side of the handle of the oar, thus making the point of application of the force come directly in the hand of the operative, and so prevent any tendency of the oar to twist, which is the chief cause of injury to the hands that causes blisters. The joint is formed by hollowing out a portion on the under side of the oar and inserting a socket-piece D, which is held properly in place by a little stop D'. A piece of soft rubber or gutta-percha E or other elastic material is placed between the socket-piece D and the oar and forms a yielding cushion on which the piece D rests. A ball C' is on the upper end of the post C and fits into the socket. The under side of the socket is formed in the piece B, as indicated in Figs. 2, 3, 5, and 6. The post C in the construction preferred—that is, where the oar is adapted to feather—is inserted through the socket B', and the portion B is then bolted or otherwise secured against the under side of the oar, holding the ball C' firmly against the socket D. The elastic cushion E presses the socket-piece D close to the ball. This affords a joint which fits snugly to the ball C' and prevents any looseness and allows the oar to tip up and down, as indicated in Fig. 2, or swing over to the side, as indicated in Fig. 3. The swinging of the same over to the side, as indicated in Fig. 3, is the position which the oar assumes in feathering. This position is allowed by the peculiar formation of the opening in the socket B', having an opening to one side, as indicated at B'' in Figs. 2, 3, and 5. It will thus be seen that this form of joint permits of all movements of the oar required and also guides the same, so that if the oarsman desires to feather his

oar he needs pay no attention to tipping it to the proper angle, because it is guided in that manner perfectly, and when dipping the oar the blade is guided to pass into the water in the perpendicular position, that being the position which secures the greatest force.

Where it is not desired to have the oar a feathering-oar, the socket is formed as indicated in Fig. 6, a slot C'' extending to one side to permit of the insertion of the ball and socket in that way when it is secured to the oar in the usual manner. The slot C' permits the ball to be inserted when the post C is formed with the bead or shoulder portion indicated for supporting the oar at the proper height above the gunwale. I desire to say in this connection that in my former patent above referred to the handle of the oar is bent downwardly; but it was bent down to establish the old line of draft in the oars, which is through the center of the handle. In this device I secure a new line of draft, the line extending through the center of the blade, through the center of the ball-and-socket joint, and through the upper surface of the handle at the point of grasping. This secures the effect of avoiding any tendency of the oar to twist in the hand of the operative and cause blistering; and this feature was discovered by me after an unsatisfactory experience with my former oar. I desire to state in this connection that the peculiar guiding feature of the ball and socket can be secured by a construction similar to that shown in my former patent, the slots being cut in the two pieces, and as to the guiding feature I do not under any circumstances wish to be confined to the exact construction I have here shown, although I believe it is the best and that it possesses great merit over any other on account of its not weakening the oar and also on account of the very slight bend in the oar, which is all that is required to bring the line of draft to the proper position, which facts I believe will be apparent to any one on examining my former patent in connection with this present patent.

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

1. The combination of the oar, A; the socket plate, D, inserted into the under side of the same with a suitable projection, D', thereon to hold it in place; an elastic cushion E, between said socket piece, D, and the oar; a post, C, with a ball, C', at the top thereof; and a plate, B, on the under side of said oar, with a socket portion, B', formed in the underside thereof containing an elongated opening extending in the direction of the oar and

branched to one side at the center to permit of turning the oar a quarter over to permit of a proper feathering of the oar, all co-acting together substantially as described for the purpose specified.

2. The combination of an oar, A, the socket plate, D, inserted into the under side of the same; a post, C, with a ball, C', at the top thereof; a plate, B, on the under side of said oar with a socket portion, B', formed in the under side thereof containing an elongated opening extending in the direction of the oar and branched to one side at the center to permit of a turning of the oar one quarter over to permit of a proper feathering of the oar, as specified.

3. The combination of an oar; a suitable downwardly projecting stem therefrom adapted to be supported in a suitable socket in the gun-wale of the boat; a ball at the upper end of said stem; and a suitable socket for said ball on the under side of the oar with slot-like openings to engage the downwardly projecting stem to guide the movements of the oar and permit of a proper dipping and feathering of the same, as specified.

4. The combination, with an oar, of an upper socket portion formed in its under side; a post, C, with a ball at the top thereof; and a suitable plate in a single piece fitted to the under side of the oar to embrace said ball and hold the same securely in its socket and permit of a proper manipulation of the oar, as specified.

5. The combination of an oar; an oar lock connected with a ball and socket joint, the ball thereof having a stem projecting therefrom; and a socket on the under side of the oar provided with suitable slot openings to engage the stem and guide the movements of the oar and permit of a proper dipping and feathering of the same; and a suitable enlargement on said oar-lock to support it at the proper height above the gun-wale of the boat, as specified.

6. The combination of an oar with the handle thereof downwardly bent; the ball and socket connection with the lock on the under side of the oar so situated that a line through the center of the blade of the oar and through the center of the joint will pass through the upper surface of the handle at the point of grasping, as specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

JOHN FORBES. [L. S.]

Witnesses:

WALTER S. WOOD,
MARIAN I. LONGYEAR.