(No Model.)

E. PINK.

BOW FACING OAR.

No. 541,946. Patented July 2, 1895.

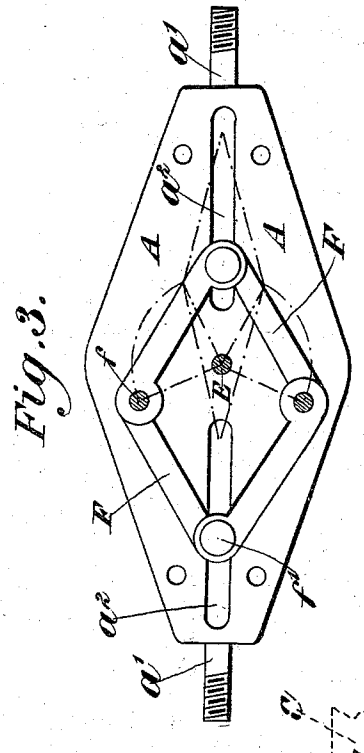

Fig. 3.

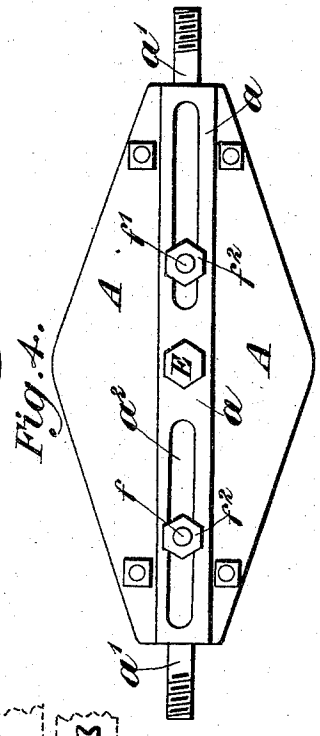

Fig. 4.

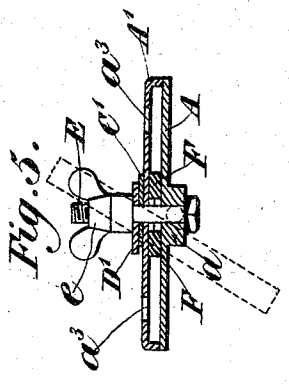

Fig. 5.

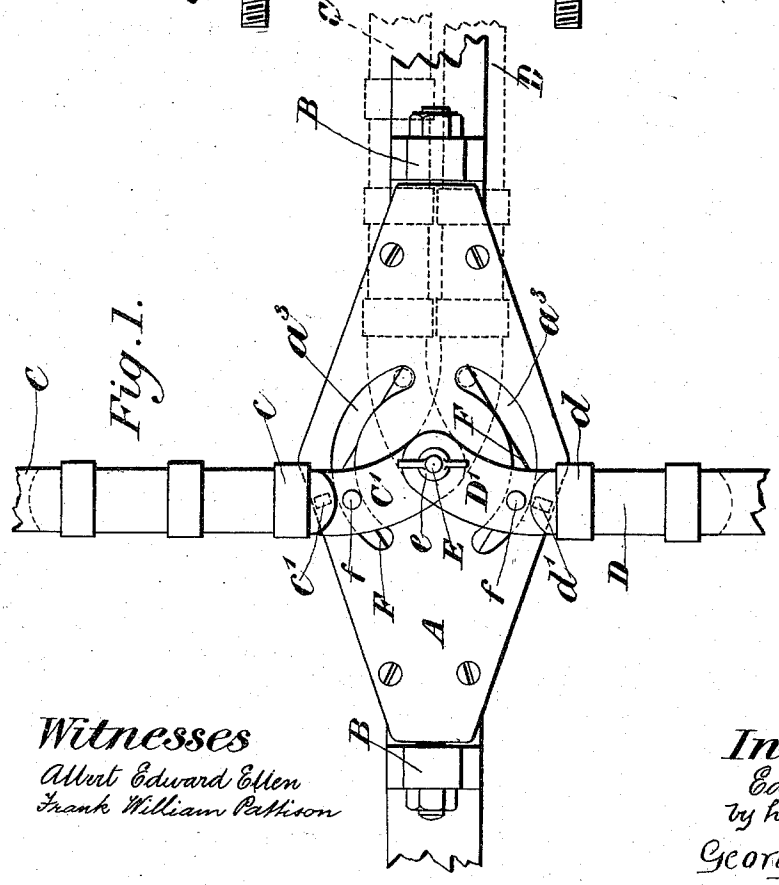

Fig. 1.

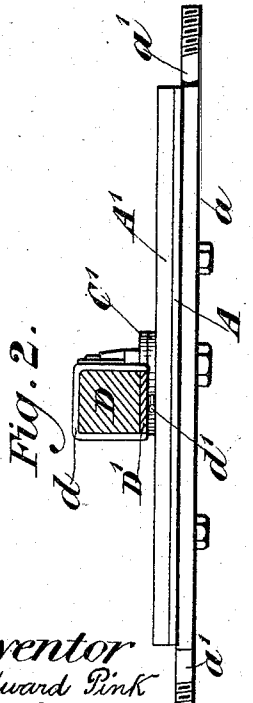

Fig. 2.

Witnesses
Albert Edward Ellen
Frank William Pattison

Inventor
Edward Pink
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George Henry Rayner

UNITED STATES PATENT OFFICE.

EDWARD PINK, OF STANTON, ENGLAND.

BOW-FACING OAR.

SPECIFICATION forming part of Letters Patent No. 541,946, dated July 2, 1895.

Application filed February 18, 1895. Serial No. 538,863. (No model.)

To all whom it may concern:

Be it known that I, EDWARD PINK, gentleman, a subject of the Queen of Great Britain and Ireland, residing at Stanton, St. Bernard, near Pewsey, county of Wilts, England, have invented certain new and useful Improvements in Rowing Apparatus, of which the following is a specication.

This invention relates to an improved rowing apparatus which will permit of the rowers facing the front of the boat while propelling it.

The apparatus consists of a block or case pivoted at the side of the boat so that it can rock about a horizontal axis. To the center of this are pivoted the scull and a handle for operating it made separately, but turning on the same pin and projecting respectively outside and inside the boat.

The handle and ore are connected by a frame in the form of an articulated parallelogram, two opposite joints of which are fitted by a pin or bolt to the arm and oar. This frame is fitted in the rocking case above mentioned, the latter being formed with longitudinal grooves in which pins at the end joints of the parallelogram take, nuts being preferably employed to retain the parts together.

The action of the apparatus is as follows: On the handle being drawn back, the jointed frame will slide with it, and being connected to the scull at the opposite point will pull the latter in the opposite direction to the motion of the handle propelling the boat forward. The rocking case will permit of the scull being raised from the water on the return stroke. Stops can be fitted to the side of the boat which will limit the motion of the rocking block and prevent the oars being dipped too far into the water.

In order that the invention may be more clearly understood reference is had to the accompanying sheet of drawings, in which—

Figure 1 is a plan of the apparatus. Fig. 2 is a side view. Figs. 3 and 4 are respectively a plan of the rocking case with the upper side removed and an under side view of the said case showing the slots, and Fig. 5 is a cross section.

The rocking case is formed in two main parts A and A′, A being the base plate and A′ the cover. The base plate is formed with a strong rib *a* at the center, having a pin *a′* at each end which serves as a pivot. This rocking case is carried in the bearings B at each end, and is allowed to rock freely around the axis formed by the said pin as shown in Fig. 5 in dotted lines.

The oar C is fitted to a plate C′ provided with a series of metal strips *c* by which the oar is fixed in place. The handle D is fitted in a corresponding manner to the plate D′ with straps *d*. These plates or arms are pivoted to the central pin E which passes up through the center of the case, one arm being fitted on top of the other, a simple fly nut *e* being employed to retain the arms in position. To permit the arms to run easily over the rocking case small rollers *c′* and *d′* are fitted underneath the arms, bearing on the top of the case reducing the friction. The arms are connected to the articulated parallelogram F fitted inside the case, the pin *f* being employed to connect the arms to the said parallelogram at opposite joints. The other joints of this parallelogram are provided with pins *f′* which pass through the central slots a^2 in the bottom of the casing, nuts f^2 being screwed on the ends of the said pins to keep the parallelogram in proper position. To permit of the arms being turned to and fro around the center E slots a^3 concentric with the said pin are formed in the top of the case. On pulling the handle in the ordinary manner, owing to this connection with the jointed parallelogram and the connection of the oar with the opposite joint, the said oar is moved simultaneously around its center in the opposite direction.

The oar and handle may be collapsed together as shown by the dotted lines in Fig 1, thus permitting the oar to be withdrawn into the boat out of the way, when not in use. On turning the case with the collapsed oar and handle into the position shown in dotted lines in Fig. 5 the oar can be still further collapsed into the boat.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A new or improved rowing apparatus consisting of rocking case fitted to the side of the boat carrying a jointed parallelogram and separate handle and oar pivoted at the cen-

ter of the parallelogram, and connected to the opposite pin of the said parallelogram, substantially as and for the purposes specified.

2. In an improved rowing apparatus the combination with a separate handle and oar pivoted together, of a horizontal case rocking in bearings at each end, a jointed parallelogram carried by the said case and connected at opposite joints to the handle and oar and longitudinal slots in the case into which pins of the parallelogram take, substantially as and for the purposes specified.

3. In an improved rowing apparatus the combination with a separate handle and oar pivoted together, of a rocking case formed with a base plate and a cover, longitudinal slots in the said base plate circular slots in the cover a jointed parallelogram in the case connected with the handle and oar at opposite joints by pins passing through the circular slots and pins at the other joints sliding in the said longitudinal slots, substantially as described and shown and for the purposes specified.

4. In an improved rowing apparatus, the combination with a rocking case longitudinal and circular slots in the case and a jointed parallelogram retained in the said case, with guiding pins passing through the longitudinal slots of arms pivoted to a central pin on the case and projecting in the opposite direction, connected to the jointed parallelogram by pins passing through the circular slots, oar and handle fitted to the opposite arms and rollers on the underside of the said arms bearing on the upper surface of the case, substantially as described and shown and for the purposes specified.

In witness whereof I have sworn to set my hand in presence of two witnesses.

EDWARD PINK.

In presence of—

HENRY ALFRED WOODBRIDGE,
ALBERT EDWARD ELLEN.