

(No Model.)

2 Sheets—Sheet 1.

O. SHNICKE.
BOW FACING OAR.

No. 568,707.

Patented Sept. 29, 1896.

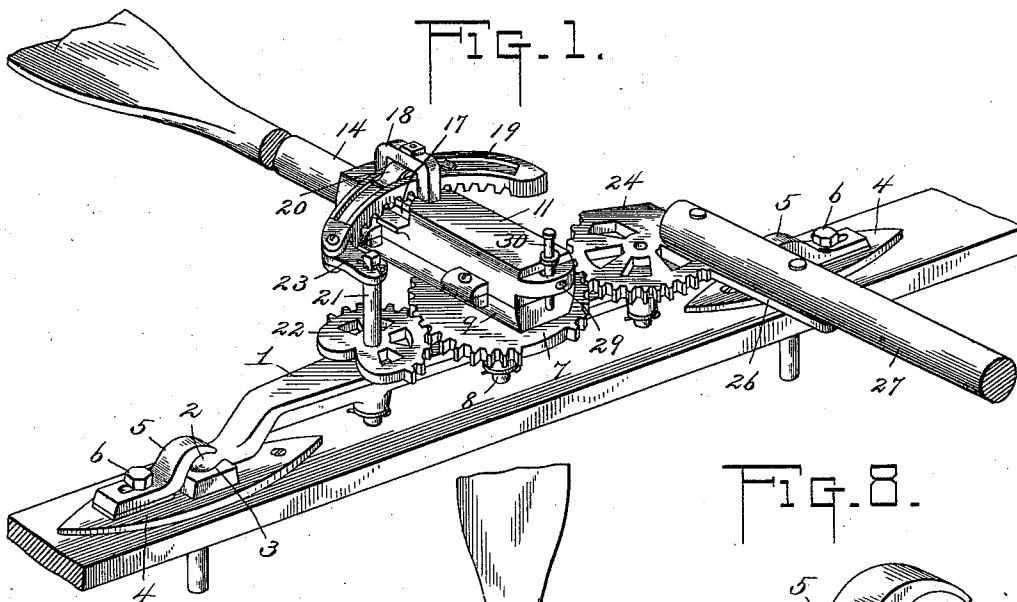


FIG. 2.

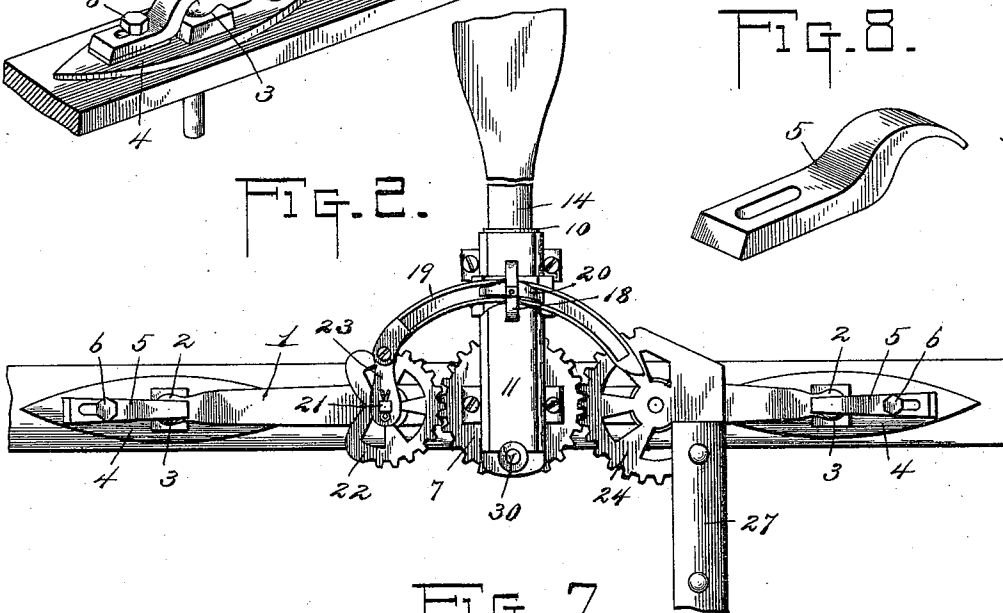


FIG. 3.

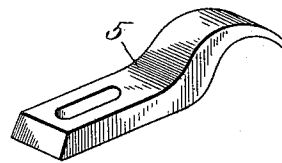
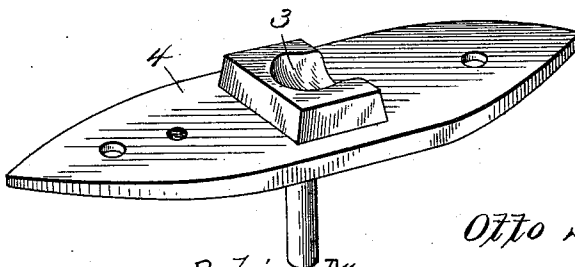


FIG. 4.



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(No Model.)

2 Sheets—Sheet 2.

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FIG. 3.

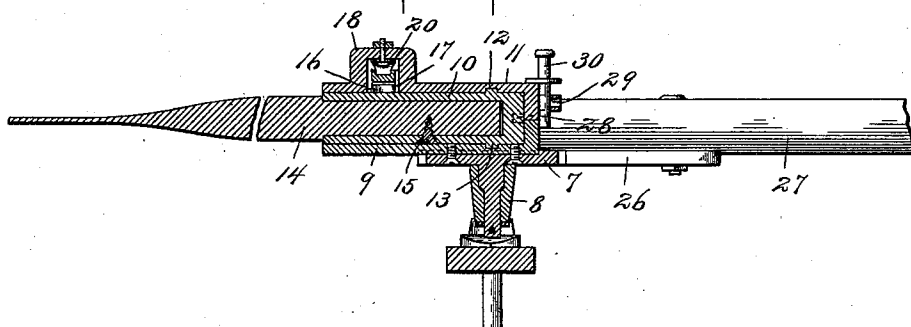


FIG. 4.

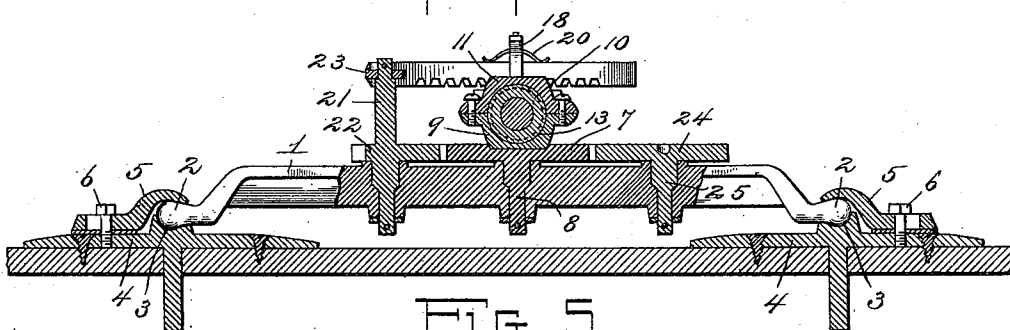


FIG. 5.

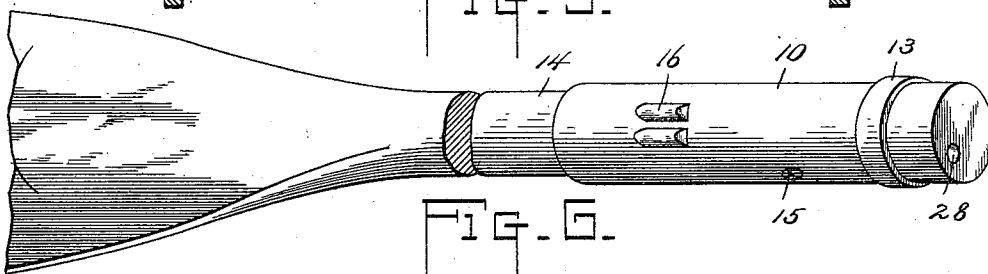
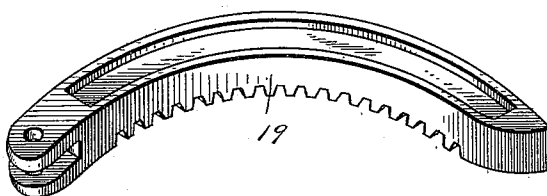


FIG. 6.



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UNITED STATES PATENT OFFICE.

OTTO SHNICKE, OF THREE LAKES, WISCONSIN.

BOW-FACING OAR.

SPECIFICATION forming part of Letters Patent No. 568,707, dated September 29, 1896.

Application filed May 9, 1896. Serial No. 590,925. (No model.)

To all whom it may concern:

Be it known that I, OTTO SHNICKE, a subject of the Emperor of Germany, residing at Three Lakes, in the county of Forest and State of Wisconsin, have invented a new and useful Feathering Bow-Facing Oar, of which the following is a specification.

This invention relates to bow-facing oars; and the object in view is to provide a simple, cheap, and efficient apparatus which will enable the oarsman to face the direction in which the boat is moving and manipulate the oars in precisely the same way in which they are ordinarily handled, the said mechanism providing at the same time for the feathering of the oars.

A further object of the invention is to so construct and arrange the operating mechanism that the same leverage upon an oar will be obtained as with an ordinary oar, the fulcrum being immediately adjacent to the gunwale of the boat; also, to mount the mechanism in such manner that it, together with the oar, may be quickly and entirely removed from the gunwale or folded inward with dispatch when passing an obstruction.

Other objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists in certain novel features and details of construction and arrangement of parts as hereinafter fully described, illustrated in the drawings, and incorporated in the claims hereto appended.

In the accompanying drawings, Figure 1 is a perspective view of the oar-operating mechanism, showing also the oar-sections and the manner in which the mechanism is mounted on the gunwale of a boat. Fig. 2 is a top plan view of the same. Fig. 3 is a sectional view taken longitudinally of the outer section of the oar. Fig. 4 is a sectional view taken longitudinally through the rock-shaft and its bearings. Fig. 5 is a detail perspective view of the oar-socket and a portion of the oar-shank projecting therefrom. Fig. 6 is a detail perspective view of the feathering-segment. Fig. 7 is a detail view of one of the bearing-plates for the rock-shaft. Fig. 8 is a similar view of one of the keepers or clips used in connection with said plates.

Similar numerals of reference designate

corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates a rock-shaft which extends longitudinally of the gunwale of a boat, being mounted at its opposite ends in bearings secured thereto. These bearings preferably consist of spherical heads or balls 2, located one at each end of the rock-shaft and each fitting loosely in a hemispheroidal socket or seat 3 in a bearing-plate 4, secured, preferably, to the upper surface of the gunwale. The ball is prevented from escaping from its socket by means of a keeper or clip 5, one end of which is curved or formed to embrace the exposed portion of the ball and the other end longitudinally slotted to receive a bolt or screw 6, passing into or through the bearing-plate, this construction serving to permit the adjustment of the keeper or clip into the proper relation to the ball 2, and also adapting the keeper or clip to be swung laterally for allowing the ball to be removed, and the rock-shaft 1, with its mechanism, to be entirely detached and removed from the bolt.

The rock-shaft 1 is made of a length suitable to receive the oar-operating mechanism, and is provided at suitable intervals with transverse bearing-openings for the reception of the spindles of the several gears. 7 designates the main or intermediate gear, which carries the outer section of the oar. This gear has a depending spindle 8, which passes through the central bearing-opening in the rock-shaft, and is secured therein by means of a cotter passed through the lower end of the spindle beneath the rock-shaft, or in any other convenient manner. Formed on or attached rigidly to the upper side of the main or intermediate gear 7 is a half-cylindrical box 9, in which the oar-socket 10 oscillates. A complementary half-box 11 fits upon the half-box 9 and completes the bearing in which the oar-socket turns, and these half-boxes are provided at corresponding points with semiannular grooves 12, together forming an annular groove for the reception of a circumferential rib or flange 13 on the oar-socket, said flange or rib preventing longitudinal or endwise movement of the socket and the attached oar, while not interfering with the free rotation or oscillation thereof. The

outer section of the oar (indicated at 14) has its inner end inserted in the oar-socket and secured by a screw or other fastening 15, passing through the oar-socket into the oar.

5 The oar-socket is provided at a suitable point in its length with one, two, or more teeth 16, and the upper half-box 11 is provided with an aperture 17, within which the teeth work. The ends of this aperture cooperate with the teeth on the oar-socket to limit the oscillation of the socket, allowing the oar to turn in one direction far enough to bring the blade of the oar in a horizontal position, and in the other direction sufficiently to bring the blade of the oar into a vertical position. 10 The upper half-box 11 is further provided adjacent to said aperture with an inverted-U-shaped guard 18, forming a transverse eye or opening, through which may reciprocate a segment 19, having teeth upon its under side for meshing with the teeth on the oar-socket. The segment 19 is held in operative engagement with the oar-socket by means of a bow-shaped spring 20, secured within the guard 18, and pressing at its ends against the upper surface of the segment or in a groove or depression in the upper surface thereof. The spring causes the segment to mesh with the teeth on the oar-socket and turn the same as far as it will go in one direction, after which the said spring will allow the segment to yield and slip over the teeth on the oar-socket. The same is true in the reverse rotation of the oar-socket.

35 The construction described accomplishes what is known as the "feathering" of the oar, and the segment is operated by a vertical rock shaft or spindle 21, having its bearing in one of the openings referred to in the rock-shaft 1. This vertical rock shaft or spindle 21 is provided with a toothed segment 22, fast thereon and meshing with the main or intermediate gear. Said shaft or spindle also carries a crank-arm 23, which connects pivotally at its swinging end with the adjacent end of the feathering-segment 19. Thus as the intermediate gear rotates in one direction and carries with it the oar in the same direction, the segment 19 is moved in the opposite direction, thereby quickly turning or feathering the oar. The main or intermediate gear is driven by means of a toothed segment 24, mounted upon the opposite side thereof from the segment 22, said segment 24 having a spindle 25, journaled in the rock-shaft 1, and being provided with an arm 26, to which the outer end of the inner section 27 of the oar is bolted or otherwise secured.

60 By the construction above described it will be seen that as the inner section or handle portion of the oar is drawn backward by the oarsman, who sits facing the bow of the boat, the outer section of the oar with the blade will also be vibrated rearward in the proper direction for propelling the boat. Upon reaching the end of the stroke the handle of the oar is de-

pressed in the usual manner, thereby causing the rock-shaft to turn in its bearings and to elevate the outer end of the oar, lifting the same clear of the water preparatory to the return stroke. The blade of the oar having been in a vertical position while making the back stroke, as it starts in its return or forward movement the teeth of the oar-socket are engaged by the feathering-segment 19, which moves in the opposite direction from that in which the oar is moving, and the oar is thus quickly feathered or turned one-quarter of a revolution, thus bringing the blade into a horizontal position, so as not to be interfered with by the wind.

A pin-socket 28 is formed in the inner end of the oar-socket, and a pin-opening 29 is formed in the inner end of the box in which the oar-socket is mounted. By bringing the pin-socket into alinement with the pin-opening and inserting a locking-pin 30 the oar may be held against turning or feathering with the blade in vertical position, the teeth on the oar-socket being turned to a position where they will not mesh with the segment 19. This expedient will be found convenient and useful when there is no wind blowing and it is not necessary to feather the oars. It will be seen that the rowing motion is precisely the same as with ordinary oars and that the same leverage is obtained, the oars being fulcrumed immediately at the gunwale, or, if desired, the operating mechanism could be mounted upon outriggers the same as ordinary oarlocks.

The oars may be vibrated to the extreme of their movement in either direction and rocked inward into the plane of the boat while passing obstructions, and, as before stated, the entire operating mechanism, together with the oars, may be detached and entirely removed from the boat or placed in the bottom thereof when occasion requires.

It will be understood that the operating mechanism is susceptible of changes in the form, proportion, and minor details of construction, which may accordingly be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. The combination with an oar made in two sections, of a gear arranged at the inner end of the outer section and having said inner end journaled thereon, a driving-segment meshing with said gear and carrying the inner section of the oar, one or more teeth on said outer section, and a feathering-segment engaging said teeth and serving to feather the oar during its stroke, substantially as described.

2. The combination with an oar made in two sections, of a toothed gear having the inner end of the outer section journaled thereon, a driving-segment meshing with said gear and carrying the inner oar-section, one or more teeth on said outer section, a feath-

ering-segment engaging said teeth for feathering said outer section, and a spring for preserving the engagement between said feathering-segment and the teeth on the outer oar-section, substantially as described.

5 3. The combination with the intermediate gear having the bearing-box rigidly mounted thereon, of the oar-socket revolubly mounted therein and provided with one or more teeth, 10 the oar rigidly mounted in said socket, a driving-segment carrying the handle-section of the oar and meshing with the intermediate gear, another segment meshing with the intermediate gear on the opposite side, and a 15 toothed segment connected thereto and engaging the teeth on the oar-socket, substantially as and for the purpose described.

4. The combination with the intermediate gear carrying the bearing for the oar-socket, 20 of the oar-socket journaled therein and provided with one or more teeth working through an aperture therein, a driving-segment arranged at one side of said gear and carrying the handle-section of the oar, another segment 25 ment arranged at the opposite side of said

gear and driven thereby, the feathering-segment connected to the last-named segment and meshing with the teeth on the oar-socket, the U-shaped guard on the bearing-box of the oar-socket, and the spring arranged between said guard and the feathering-segment, 30 all arranged for joint operation, substantially as described.

5. The combination with the oar-socket having a pin-socket formed therein, of the bearing-box in which said oar-socket is mounted 35 provided with a pin-opening with which the pin-socket is adapted to be brought into alignment, and the locking-pin adapted to be inserted through the opening in the box and 40 into the oar-socket for holding the latter from turning, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

OTTO SHNICKE.

Witnesses:

JOSEF FREIMUTH,
F. S. CAMPBELL.